

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Sh J. Lee Examiner #: 176060 Date: 6-16-2005
 Art Unit: 1752 Phone Number 302-1333 Serial Number: 101689,482
 Mail Box and Bldg/Room Location: 9066 Results Format Preferred (circle): PAPER DISK E-MAIL
 (Rem.)

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Plz see B.I.b.

Inventors (please provide full names): _____

SCIENTIFIC REFERENCE BR
Sci & Tech Int. Ctr.

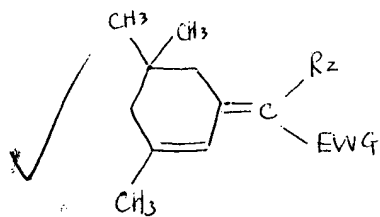
Earliest Priority Filing Date: _____

JUN 17 RECU

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent number) of the appropriate serial number.

Lee 689R

Please search for a polymer which has the following moiety in the side chain.



R₂ = H, alkyl (cyclic, acyclic),
heteroalkyl, or EWG

EWG = non-aromatic
electron withdrawing gp.

Such as:

carbonyl ($-\overset{\text{O}}{\underset{\text{O}}{\text{C}}}-$) ✓

cyano ($-\text{C}\equiv\text{N}$) ✓

imino ($-\text{N}=\text{C}-$) ✓

carboxylic acid ($-\text{COOH}$) ✓

carboxylic ester ($-\text{COOR}$) ✓

carboxamido ($-\overset{\text{O}}{\underset{\text{O}}{\text{C}}}-\text{N}-$) ✓

carboximido or sulfonyl gp.

STAFF USE ONLY

Searcher: X. Fuller Type of Search _____ Vendors and cost where applicable _____
 Searcher Phone #: _____ NA Sequence (#) _____ STN ✓
 Searcher Location: _____ AA Sequence (#) _____ Dialog _____
 Date Searcher Picked Up: _____ Structure (#) 2 Questel/Orbit _____
 Date Completed: 7/5/05 Bibliographic _____ Dr. Link _____
 Searcher Prep & Review Time: 30 Litigation _____ Lexis/Nexis _____
 Clerical Prep Time: _____ Fulltext _____ Sequence Systems _____
 Online Time: 30 Patent Family _____ WWW/Internet _____
 Other _____ Other (specify) _____

batch
subset

> file reg

FILE 'REGISTRY' ENTERED AT 09:18:34 ON 05 JUL 2005
 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
 PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
 COPYRIGHT (C) 2005 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file
 provided by InfoChem.

STRUCTURE FILE UPDATES: 4 JUL 2005 HIGHEST RN 853727-85-2
 DICTIONARY FILE UPDATES: 4 JUL 2005 HIGHEST RN 853727-85-2

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

Please note that search-term pricing does apply when
 conducting SmartSELECT searches.

 *
 * The CA roles and document type information have been removed from *
 * the IDE default display format and the ED field has been added, *
 * effective March 20, 2005. A new display format, IDERL, is now *
 * available and contains the CA role and document type information. *
 *

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
 information enter HELP PROP at an arrow prompt in the file or refer
 to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> d que

L1 SCR 2043
 L2 STR

O~S~O
 8 @9 10

3788 structures from
 this query

C~O C~C~C=C~G1
 @4 5 12 11 1 2 3

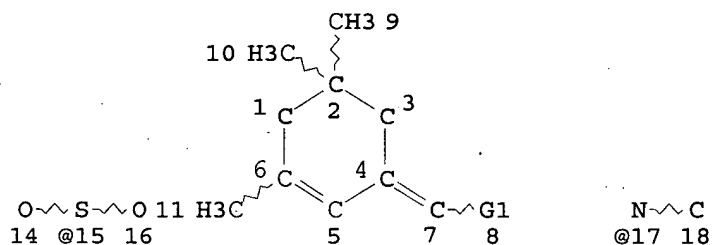
C~N
 @6 @7

VAR G1=4/6/7/9
 NODE ATTRIBUTES:

NSPEC IS RC AT 1
 NSPEC IS RC AT 2
 NSPEC IS RC AT 4
 NSPEC IS RC AT 6
 NSPEC IS RC AT 7
 NSPEC IS RC AT 9
 NSPEC IS RC AT 11
 NSPEC IS RC AT 12
 CONNECT IS E1 RC AT 5
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 12

STEREO ATTRIBUTES: NONE
 L3 3788 SEA FILE=REGISTRY SSS FUL L2 AND L1
 L7 STR



Subset search

VAR G1=CN/12/15/17
 NODE ATTRIBUTES:
 CONNECT IS E1 RC AT 13
 CONNECT IS E1 RC AT 14
 CONNECT IS E1 RC AT 16
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RSPEC I
 NUMBER OF NODES IS 18

STEREO ATTRIBUTES: NONE
 L10 0 SEA FILE=REGISTRY SUB=L3 SSS FUL L7

Zero answers

=>

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Sin J. Lee Examiner #: 76060 Date: 6-16-2005
 Art Unit: 1752 Phone Number 302-1333 Serial Number: 10/689,482
 Mail Box and Bldg/Room Location: 9060 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Plz. See B.T.B. SCIENTIFIC REFERENCE BR
 Inventors (please provide full names): Sci & Tech Inf. Ctr

JUN 17 REC'D

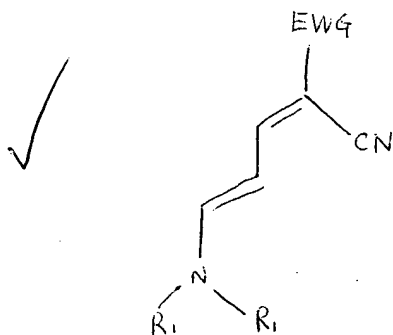
Earliest Priority Filing Date: _____

Pat. & T.M. Office

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

see 689CN

— Please search for a polymer which has the following moiety in the side chain. (for example, the EWG gp. can be bonded to the back bone of the polymer)



R_1 = non-aromatic and represents H, alkyl (cyclic or cyclic), or heteroalkyl

EWG = non-aromatic, electron withdrawing gp

Such as

carbonyl ($-\overset{\text{O}}{\underset{\text{||}}{\text{C}}}-$), cyano ($-\text{C}\equiv\text{N}$), imino ($-\text{N}=\text{C}<$), carboxylic acid ($-\text{COOH}$), carboxylic ester ($-\text{COOR}$), carboxamido ($-\overset{\text{O}}{\underset{\text{||}}{\text{C}}}-\text{N}<$), carboximido or Sulfonyl gp ($-\overset{\text{O}}{\underset{\text{||}}{\text{S}}}-$)

STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: <u>X. Fuller</u>	NA Sequence (#) _____	STN <u>L</u>
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) <u>2</u>	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr. Link _____
Date Completed: <u>7/5/05</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>30</u>	Fulltext _____	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time: <u>30</u>	Other _____	Other (specify) _____

batch
subset

=> file reg

FILE 'REGISTRY' ENTERED AT 09:24:49 ON 05 JUL 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2005 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 4 JUL 2005 HIGHEST RN 853727-85-2
DICTIONARY FILE UPDATES: 4 JUL 2005 HIGHEST RN 853727-85-2

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

Please note that search-term pricing does apply when conducting SmartSELECT searches.

*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> file hcaplu

FILE 'HCAPLUS' ENTERED AT 09:24:53 ON 05 JUL 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 5 Jul 2005 VOL 143 ISS 2
FILE LAST UPDATED: 4 Jul 2005 (20050704/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d que

L1 .SCR 2043
L2 STR

O~~S~~O
8 @9 10

C~~O C=C C=C G1
@4 5 12 11 1 2 3

C=N
@6 @7

3,788 polymers from
query

VAR G1=4/6/7/9

NODE ATTRIBUTES:

NSPEC IS RC AT 1
NSPEC IS RC AT 2
NSPEC IS RC AT 4
NSPEC IS RC AT 6
NSPEC IS RC AT 7
NSPEC IS RC AT 9
NSPEC IS RC AT 11
NSPEC IS RC AT 12
CONNECT IS E1 RC AT 5
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 12

STEREO ATTRIBUTES: NONE

L3 3788 SEA FILE=REGISTRY SSS FUL L2 AND L1
L11 STR

13
CN
}

C~~O
@4 5

C=N
@6 @7

O~~S~~O
8 @9 10

N~~C=C C=C G1
14 12 11 1 2 3

Subset search

VAR G1=4/6/7/9

NODE ATTRIBUTES:

NSPEC IS RC AT 1
NSPEC IS RC AT 2
NSPEC IS RC AT 4
NSPEC IS RC AT 6
NSPEC IS RC AT 7
NSPEC IS RC AT 9
NSPEC IS RC AT 11
NSPEC IS RC AT 12
NSPEC IS RC AT 14

24 polymers

CONNECT IS E1 RC AT 5
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 14

STEREO ATTRIBUTES: NONE
L13 24 SEA FILE=REGISTRY SUB=L3 SSS FUL L11
L14 11 SEA FILE=HCAPLUS ABB=ON L13

=> d l14 1-11 bib abs ind hitstr

*11 CA references
from the
24 polymers*

L14 ANSWER 1 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:822755 HCAPLUS
DN 141:340487
TI Optical data carrier with polymer network in information layer
IN Berneth, Horst; Bruder, Friedrich-Karl; Hagen, Rainer; Hassenrueck, Karin;
Kostromine, Serguei; Krueger, Christa Maria; Meyer-Friedrichsen, Timo;
Oser, Rafael; Stawitz, Josef-Walter
PA Bayer Chemicals A.-G., Germany
SO Ger. Offen., 131 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10313173	A1	20041007	DE 2003-10313173	20030325
	WO 2004086390	A1	20041007	WO 2004-EP2585	20040312
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRAI DE 2003-10313173 A 20030325
AB The invention relates to an optical data storage device with at least one
information layer, wherein the information layer contains the polymer
network with covalent bonded light-absorbable compds. Monomers for the
polymer network are prepared
IC ICM G11B007-24
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other
Reprographic Processes)
ST optical rewritable recording disk polymer network light absorber
IT Erasable optical disks
(optical data carrier with polymer network in information layer)
IT 62-53-3, Aniline, reactions 74-89-5, Methylamine, reactions 84-83-3
107-19-7, Propargyl alcohol 107-21-1, Ethylene glycol, reactions
109-73-9, Butylamine, reactions 109-76-2, 1,3-Diaminopropane 109-77-3,
Malonic acid dinitrile 109-83-1, 2-Methylamino-ethanol 109-90-0, Ethyl
isocyanate 110-75-8, 2-Chloroethyl-vinyl ether 110-87-2,
3,4-Dihydro-2H-pyran 110-91-8, Morpholine, reactions 111-42-2,

Diethanolamine, reactions 120-75-2, 2-Methyl-benzothiazole 122-31-6,
 1,1,3,3-Tetraethoxy-propane 540-51-2, 2-Bromoethanol 622-15-1,
 N,N'-Diphenylformamidine 627-18-9, 3-Bromo-1-propanol 627-48-5, Cyanic
 acid ethyl ester 769-42-6, N,N-Dimethyl barbituric acid 814-68-6,
 Acrylic acid chloride 868-77-9, 2-Hydroxyethyl methacrylate 920-46-7,
 Methacrylic acid chloride 1640-39-7, 2,3,3-Trimethylindolenine
 1663-67-8, Malonic acid chloride 1899-24-7, 5-Bromo-2-furaldehyde
 2420-94-2, 2-Aminoethylmethacrylate hydrochloride 4097-89-6,
 Tris(2-aminoethyl)amine 7336-29-0, 2-Aminoethyl-vinyl ether 30674-80-7
 RL: RCT (Reactant); RACT (Reactant or reagent)

(monomer preparation for polymer network; optical data carrier with polymer
 network in information layer)

IT 4485-89-6P 5807-04-5P 16672-33-6P 17739-45-6P 19660-17-4P
 21115-26-4P 21761-72-8P 28799-82-8P 42271-11-4P 86219-64-9P
 111653-59-9P 126858-63-7P 170297-67-3P 174097-08-6P 769934-49-8P
 769934-50-1P 769934-51-2P 769934-52-3P 769934-53-4P 769934-54-5P
 769934-55-6P 769934-56-7P 769934-57-8P 769934-58-9P 769934-59-0P
 769934-60-3P 769934-61-4P 769934-62-5P 769934-63-6P 769934-64-7P
 769934-65-8P 769934-66-9P 769934-67-0P 769934-68-1P 769934-69-2P
 769934-70-5P 769934-71-6P 769934-72-7P 769934-73-8P 769934-74-9P
 769934-75-0P 769934-76-1P 769934-77-2P 769934-78-3P 769934-79-4P
 769934-80-7P 769934-81-8P 769934-82-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)

(monomer preparation for polymer network; optical data carrier with polymer
 network in information layer)

IT 769934-83-0P 769934-85-2P 769934-86-3P 769934-87-4P 769934-88-5P
 769934-90-9P 769934-91-0P 769934-92-1P 769934-93-2P
 769934-95-4P 769934-97-6P 769934-99-8P 769935-00-4P 769935-01-5P
 769935-02-6P 769935-04-8P 769935-06-0P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP
 (Preparation); USES (Uses)

(polymer network preparation; optical data carrier with polymer network in
 information layer)

IT 769934-93-2P 769935-06-0P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP
 (Preparation); USES (Uses)

(polymer network preparation; optical data carrier with polymer network in
 information layer)

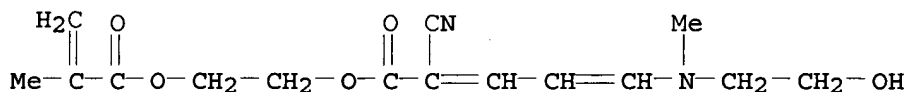
RN 769934-93-2 HCAPLUS

CN 2,4-Pentadienoic acid, 2-cyano-5-[(2-hydroxyethyl)methylamino]-,
 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester, homopolymer (9CI) (CA
 INDEX NAME)

CM 1

CRN 769934-78-3

CMF C15 H20 N2 O5



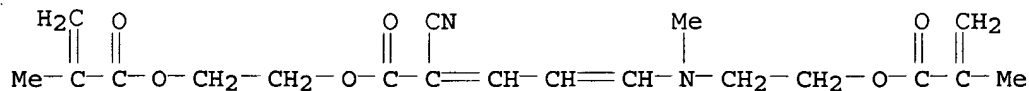
RN 769935-06-0 HCAPLUS

CN 2,4-Pentadienoic acid, 2-cyano-5-[methyl[2-[(2-methyl-1-oxo-2-
 propenyl)oxy]ethyl]amino]-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester,
 homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 769935-05-9

CMF C19 H24 N2 O6



L14 ANSWER 2 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:678904 HCAPLUS

DN 139:215956

TI Water-thinned ink-jet inks and ink sets and image recording method

IN Nishita, Nobuhiro; Yamanouchi, Junichi

PA Fuji Photo Film Co., Ltd., Japan

SO PCT Int. Appl., 134 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003070841	A1	20030828	WO 2003-JP1715	20030218
	W: CN, JP, US				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR				
PRAI	JP 2002-43683	A	20020220		
	JP 2002-43684	A	20020220		
AB	The ink compns. comprise a polymer fine-particle dispersion containing a polymer having a specific partial structure capable of absorbing UV light. The polymer fine-particle dispersion is used at the time of recording. The storability (e.g., lightfastness) of recorded images can be enhanced by forming a coating film on the images.				
IC	ICM C09D011-00				
	ICS B41M005-00; B41J002-01				
CC	42-12 (Coatings, Inks, and Related Products)				
ST	light resistance water thinned jet printing ink; UV absorbing polymer aq jet printing ink				
IT	Inks				
	(jet-printing, water-thinned; light-, weather-, and water-resistant water-thinned ink-jet inks and ink sets)				
IT	UV stabilizers				
	(light-, weather-, and water-resistant water-thinned ink-jet inks and ink sets)				
IT	460354-58-9				
	RL: TEM (Technical or engineered material use); USES (Uses)				
	(assumed monomers; light-, weather-, and water-resistant water-thinned ink-jet inks and ink sets)				
IT	9003-55-8, Butadiene-styrene copolymer 25085-39-6, Acrylic acid-butadiene-styrene copolymer 25153-46-2 26300-51-6, Acrylic acid-butyl acrylate-methyl methacrylate copolymer 29316-78-7, Acrylic acid-butyl acrylate-tert-butyl acrylate copolymer 30528-51-9 89118-62-7 89231-05-0 96478-13-6 128896-54-8 147242-86-2, Acrylic acid-2-ethylhexyl methacrylate-2-hydroxyethyl methacrylate-styrene copolymer 176225-47-1 365245-54-1 369595-80-2, Acrylic acid-isobutyl methacrylate-tetrahydrofurfuryl acrylate copolymer 460078-18-6, Acrylic acid-2-butoxyethyl methacrylate-isopropyl methacrylate copolymer				

460354-55-6, Acrylic acid-ethyl acrylate-phenyl methacrylate copolymer
460354-56-7

RL: TEM (Technical or engineered material use); USES (Uses)
(light-, weather-, and water-resistant water-thinned ink-jet inks and ink sets)

IT 460354-58-9

RL: TEM (Technical or engineered material use); USES (Uses)
(assumed monomers; light-, weather-, and water-resistant water-thinned ink-jet inks and ink sets)

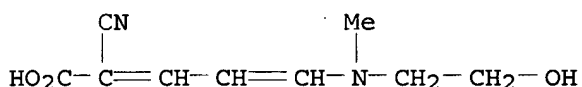
RN 460354-58-9 HCAPLUS

CN Butanedioic acid, polymer with 2-cyano-5-[(2-hydroxyethyl)methylamino]-2,4-pentadienoic acid and 1,2-ethanediol (9CI) (CA INDEX NAME)

CM 1

CRN 460354-57-8

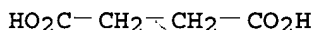
CMF C9 H12 N2 O3



CM 2

CRN 110-15-6

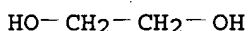
CMF C4 H6 O4



CM 3

CRN 107-21-1

CMF C2 H6 O2



RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 3 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:707097 HCAPLUS

DN 137:255354

TI Coating composition for forming weather-resistant film on ink-jet printed image

IN Nishida, Nobuhiro

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 36 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

PI JP 2002264465 A2 20020918 JP 2001-67019 20010309
 PRAI JP 2001-67019 20010309

AB The composition contains colorant-free polymer particles and preferably UV-absorbing monomer-containing polymers. Ink-jet printing method by recording image on white inorg. pigment-containing paper and forming a film on the printed paper with the composition, is also claimed. The film formed with the composition gives water-, light- and weather-resistant image.

IC ICM B41M005-00
 ICS B41J002-01; C09D007-12; C09D201-00

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 42

ST weather resistant coating ink jet printed image; polymer particle coating ink jet printed image; UV absorbing polymer coating ink jet printed image

IT Ink-jet printing
 UV stabilizers
 (coating composition containing colorant-free polymer particles for forming weather-resistant film on ink-jet printed image)

IT Coating materials
 (weather-resistant; coating composition containing colorant-free polymer particles for forming weather-resistant film on ink-jet printed image)

IT 30528-51-9 89118-62-7 89231-05-0 96478-13-6 176225-47-1
 460354-56-7 460354-58-9
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
 (UV-absorbing; coating composition containing colorant-free polymer particles for forming weather-resistant film on ink-jet printed image)

IT 9003-55-8, Butadiene-styrene copolymer 25085-39-6, Acrylic acid-butadiene-styrene copolymer 25153-46-2, 2-Ethylhexyl acrylate-styrene copolymer 29316-78-7, Acrylic acid-butyl acrylate-tert-butyl acrylate copolymer 128896-54-8, Acrylic acid-tert-butylmethacrylamide-methyl methacrylate copolymer 363158-98-9, Acrylic acid-isobutyl methacrylate-polyethylene glycol monomethyl ether methacrylate graft copolymer 369595-80-2, Acrylic acid-isobutyl methacrylate-tetrahydrofurfuryl acrylate copolymer 375346-97-7
 460354-55-6
 RL: TEM (Technical or engineered material use); USES (Uses)
 (coating composition containing colorant-free polymer particles for forming weather-resistant film on ink-jet printed image)

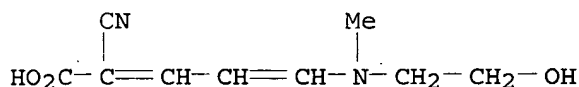
IT 460354-58-9
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
 (UV-absorbing; coating composition containing colorant-free polymer particles for forming weather-resistant film on ink-jet printed image)

RN 460354-58-9 HCAPLUS

CN Butanedioic acid, polymer with 2-cyano-5-[(2-hydroxyethyl)methylamino]-2,4-pentadienoic acid and 1,2-ethanediol (9CI) (CA INDEX NAME)

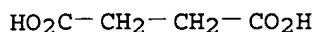
CM 1

CRN 460354-57-8
 CMF C9 H12 N2 O3



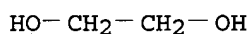
CM 2

CRN 110-15-6
CMF C4 H6 O4



CM 3

CRN 107-21-1
CMF C2 H6 O2



L14 ANSWER 4 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1988:619489 HCAPLUS

DN 109:219489

TI Silver halide photographic photosensitive materials with improved antistatic and antisweating properties.

IN Usagawa, Yasushi; Iwagaki, Masaru

PA Konica Co., Japan

SO Jpn. Kokai Tokkyo Koho, 20 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 63056651	A2	19880311	JP 1986-200741	19860827
PRAI	JP 1986-200741		19860827		

AB An UV-absorbing compound residue-containing polyurethane or polyurea is included

in the title photog. material (preferably in its surface protective layer) as an antistatic agent and to prevent sweating. The UV-absorbing compound residue-containing polyurethane or polyurea has the repeating structure Q-(-Y-)n(Q = UV-absorbing compound residue; Y = O, NR; R = H, alkyl, cycloalkyl, Ph; n = 2-4). Isocyanates and an UV-absorbing compound having OH or NH2 groups may be polymerized to give the polyurethane or polyurea.

IC ICM G03C001-82

ICS G03C001-76

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST silver photog material antistatic antisweating; UV absorber polyurethane photog material; polyurea UV absorber photog material

IT Polyureas

Urethane polymers, uses and miscellaneous

RL: USES (Uses)

(UV-absorbing compound residue-containing, as photog. antistatic and
antiskeating agent)

IT Photographic films
(antistatic and antiskeating, UV-absorbing compound residue-containing
polyurethanes or polyureas for)

IT 117391-87-4P 117391-89-6P 117391-91-0P 117391-93-2P 117391-95-4P
117391-97-6P 117391-99-8P 117392-01-5P 117392-03-7P 117392-05-9P
117392-07-1P 117433-04-2P 117433-06-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and use of, as photog. antistatic and antiskeating agent)

IT 117392-09-3P 117392-11-7P 117392-13-9P 117392-15-1P
117392-17-3P 117392-19-5P 117392-21-9P 117392-23-1P 117392-25-3P
117392-27-5P 117392-29-7P 117392-31-1P 117392-33-3P 117392-35-5P
117392-37-7P 117397-28-1P 117433-08-6P
RL: PREP (Preparation)
(preparation of, as photog. antistatic and antiskeating agent)

IT 4485-89-6 7605-30-3 22607-31-4 89115-28-6 117541-80-7
117541-81-8 117541-82-9 117541-83-0 117541-84-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, UV-absorbing agent from, for photog. antistatic and
antiskeating agent)

IT 622-15-1 1772-43-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, intermediate for UV-absorbing agent from, for photog.
antistatic and antiskeating agent)

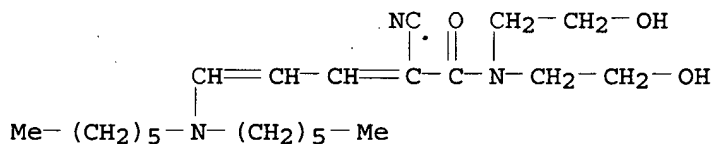
IT 117392-09-3P 117392-11-7P
RL: PREP (Preparation)
(preparation of, as photog. antistatic and antiskeating agent)

RN 117392-09-3 HCAPLUS
CN 2,4-Pentadienamide, 2-cyano-5-(dihexylamino)-N,N-bis(2-hydroxyethyl)-,
polymer with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane
(9CI) (CA INDEX NAME)

CM 1

CRN 117392-08-2

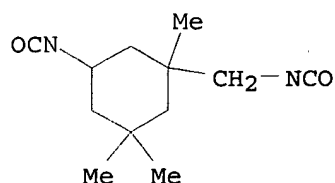
CMF C22 H39 N3 O3



CM 2

CRN 4098-71-9

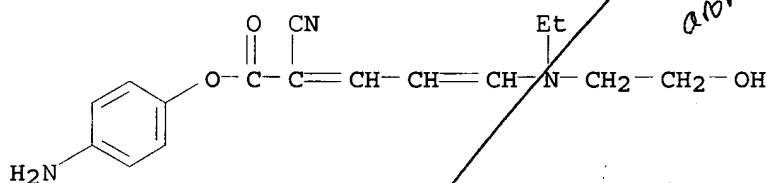
CMF C12 H18 N2 O2



RN 117392-11-7 HCAPLUS
 CN 2,4-Pentadienoic acid, 2-cyano-5-[ethyl(2-hydroxyethyl)amino]-, 4-aminophenyl ester, polymer with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (9CI) (CA INDEX NAME)

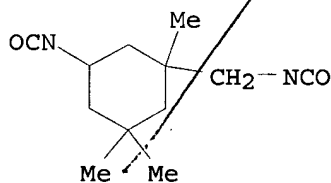
CM 1

CRN 117392-10-6
 CMF C16 H19 N3 O3



CM 2

CRN 4098-71-9
 CMF C12 H18 N2 O2



L14 ANSWER 5 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1988:538931 HCAPLUS
 DN 109:138931
 TI Migration mechanism of the Onsager's charge-carrier photogeneration
 AU Aleksandrova, E. L.; Cherkasov, Yu. A.
 CS USSR
 SO Optika i Spektroskopiya (1988), 64(5), 1047-55
 CODEN: OPSPAM; ISSN: 0030-4034
 DT Journal
 LA Russian
 AB A dependence of quantum yields of charge carrier photogeneration on the spatial and energetic parameters of the polymeric donor-acceptor complexes was established for the series of poly(vinylcarbazole) and its analogs

(9-substituted polymeric carbazoles, and vinyl aromatic polymers) with the acceptors chosen from fluorene derivs., intramol. complexes, and tri-component dye complexes. The migration mechanism of the Onsager photogeneration for the donor-acceptor complexes was developed, based on the intramol. migration of the bound charge. A good agreement between theor. calculated and exptl. dependencies was obtained. The possibility of increasing photosensitivity of the electrophotog. and photothermoplastic materials choosing the proper structure of the complex is indicated.

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 76

ST charge carrier photogeneration acceptor donor complex; polyvinylcarbazide complex Onsager photogeneration; polymer charge transfer complexes photocond; electrophotog polyvinylcabazide charge transfer complex

IT Electrophotographic photoconductors

(charge-transfer complexes as, based on poly(vinylcarbazole), migration mechanism of Onsager charge-carrier photogeneration)

IT Dyes

(monomethine, complexes with poly(vinyl carbazole) and thallium and dihydroxybenzene, migration mechanism of Onsager charge-carrier generation in)

IT Photoconductivity and Photoconduction

(of poly(vinylcarbazole) charge-transfer complexes, migration mechanism in)

IT Charge-transfer complexes

RL: USES (Uses)

(polymeric, of poly(vinylcarbazole) and its analogs, migration mechanism of Onsager charge-carrier photogeneration in)

IT 108-46-3DP, Resorcin, complexes with poly(vinylcarbazole) and thallium and dyes 120-80-9DP, Catechol, complexes with poly(vinylcarbazole) and thallium and dyes 123-31-9DP, Hydroquinone, complexes with poly(vinylcarbazole) and thallium and dyes 7440-28-0DP, Thallium, complexes with poly(vinylcarbazole), dihydroxybenzenes, and dyes 25067-59-8DP, Poly(vinyl carbazole), complexes with thallium, dihydroxybenzenes, and dyes 36201-46-4P 39613-12-2P 109181-00-2P

116462-24-9P 116462-25-0P 116462-27-2P 116462-28-3P

116463-99-1P 116464-01-8P 116483-06-8P 116514-33-1P

116559-55-8P 116559-56-9P

RL: PREP (Preparation)

(photogeneration of charge carriers in, Onsager, migration mechanism of)

IT 116462-24-9P 116462-28-3P 116463-99-1P

116483-06-8P

RL: PREP (Preparation)

(photogeneration of charge carriers in, Onsager, migration mechanism of)

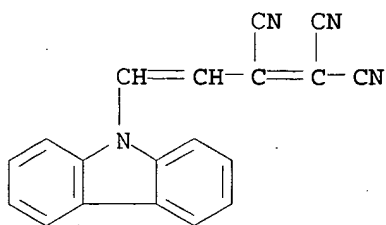
RN 116462-24-9 HCAPLUS

CN 1,3-Butadiene-1,1,2-tricarbonitrile, 4-(9H-carbazol-9-yl)-, compd. with 9-ethenyl-9H-carbazole homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 31317-52-9

CMF C19 H10 N4

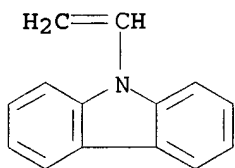


CM 2

CRN 25067-59-8
 CMF (C14 H11 N)x
 CCI PMS

CM 3

CRN 1484-13-5
 CMF C14 H11 N

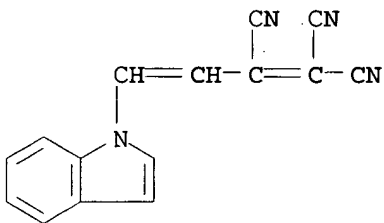


RN 116462-28-3 HCAPLUS

CN 1,3-Butadiene-1,1,2-tricarbonitrile, 4-(1H-indol-1-yl)-, compd. with
 9-ethenyl-9H-carbazole homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 87244-09-5
 CMF C15 H8 N4

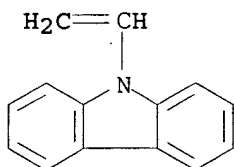


CM 2

CRN 25067-59-8
 CMF (C14 H11 N)x
 CCI PMS

CM 3

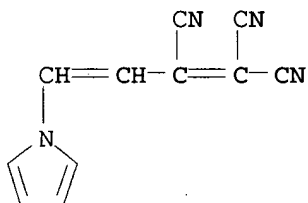
CRN 1484-13-5
CMF C14 H11 N



RN 116463-99-1 HCAPLUS
CN 1,3-Butadiene-1,1,2-tricarbonitrile, 4-(phenyl-1H-pyrrol-1-yl)-, compd.
with 9-ethenyl-9H-carbazole homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 116463-98-0
CMF C17 H10 N4
CCI IDS



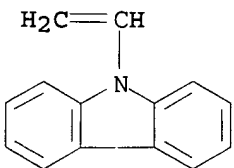
D1- Ph

CM 2

CRN 25067-59-8
CMF (C14 H11 N)x
CCI PMS

CM 3

CRN 1484-13-5
CMF C14 H11 N



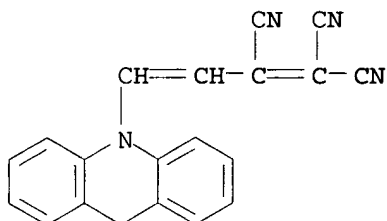
RN 116483-06-8 HCAPLUS
CN 1,3-Butadiene-1,1,2-tricarbonitrile, 4-(10(9H)-acridinyl)-, compd. with

9-ethenyl-9H-carbazole homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 116483-05-7

CMF C20 H12 N4



CM 2

CRN 25067-59-8

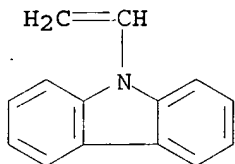
CMF (C14 H11 N)x

CCI PMS

CM 3

CRN 1484-13-5

CMF C14 H11 N



L14 ANSWER 6 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1988:501708 HCAPLUS

DN 109:101708

TI Silver halide photographic emulsion for radiographic film

IN Delfino, Gerolamo; Debenedetti, Milena

PA Minnesota Mining and Manufacturing Co., USA

SO Eur. Pat. Appl., 22 pp.

CODEN: EPXXDW

DT Patent

LA English

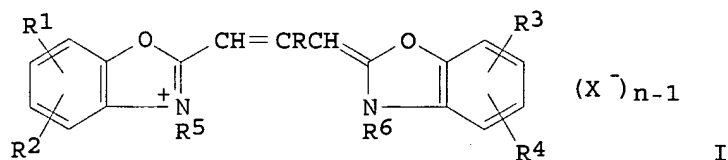
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 244718	A2	19871111	EP 1987-106045	19870424
	EP 244718	A3	19890308		
	EP 244718	B1	19930127		
	R: BE, DE, FR, GB, NL				
	US 4777125	A	19881011	US 1987-45620	19870501
	AU 8772555	A1	19871112	AU 1987-72555	19870506
	AU 595029	B2	19900322		

used
9/11
instead

CA 1293638	A1	19911231	CA 1987-536566	19870507
JP 63024238	A2	19880201	JP 1987-112243	19870508
JP 2529688	B2	19960828		
PRAI IT 1986-20369	A	19860508		

GI



AB A radiog. film comprises a transparent support coated on ≥ 1 side with ≥ 1 Ag halide photog. emulsion containing cubic Ag halide grains having a J-band spectral sensitizing dye having the general formula I (R = H, alkyl; R1-R4 = H, halogen, OH, alkoxy, amino, acylamino, acyloxy, alkoxy carbonyl, alkyl, alkoxy carbonylamino, aryl, R1 and R2 or R3 and R4 together may form a benzene nucleus; R5, R6 = alkyl, hydroxyalkyl, acetoxyalkyl, alkoxyalkyl, carboxyl-containing alkyl, sulfo-containing alkyl, benzyl; X- = acid anion; n = 1.2) adsorbed on the surface thereof in a quantity substantially higher than that amount which optimally sensitizes the Ag halide grains and exhibits improved image quality and reduced residual stains. Thus, a cubic-grain Ag(Br,I) emulsion (2.3% I, 0.65 μ m average grain diameter, 1:1 average aspect ratio) spectrally sensitized

with

5,5'-dichloro-9-ethyl-3,3'-bis(3-sulfopropyl) oxacarboxyamine hydroxide triethylammonium salt and KI was coated on a poly(ethylene terephthalate) transparent film support, overcoated with a gelatin layer, contacted with a 3M Trimax 8 intensifying screen, exposed through a laminated Al step wedge to x-rays, and processed to give a speed (relative log E) of 2.57. The image quality of the processed film was excellent.

IC ICM G03C001-02

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST silver halide emulsion radiog film; oxycarbocyanine dye sensitizer radiog film; cubic grain silver halide radiog

IT Radiography

(photosensitive emulsions containing cubic silver halide grains adsorbed with J-band oxycarbocyanine dyes)

IT Photographic sensitizers

(J-band, oxycarbocyanine dyes as, for cubic silver halide grains for radiog. materials)

IT Radiography

(emulsions, containing cubic silver halide grains adsorbed with J-band oxycarbocyanine dyes)

IT Photographic emulsions

(radiog., containing cubic silver halide grains adsorbed with J-band oxycarbocyanine dyes)

IT 115927-31-6

RL: USES (Uses)

(photosensitive emulsions containing cubic silver halide grains sensitized with J-band oxycarbocyanine dye and, for radiog. materials)

IT 39201-42-8

RL: USES (Uses)

(J-band photog. spectral sensitizer, for radiog. emulsions containing cubic silver halide grains)

IT 115927-31-6

RL: USES (Uses)

(photosensitive emulsions containing cubic silver halide grains sensitized with J-band oxacarbocyanine dye and, for radiog. materials)

RN 115927-31-6 HCAPLUS

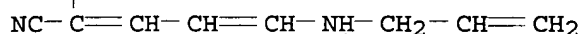
CN 2-Propenamide, polymer with [3-(2-propenylamino)-2-propenylidene]propanedinitrile (9CI) (CA INDEX NAME)

CM 1

CRN 115927-30-5

CMF C9 H9 N3

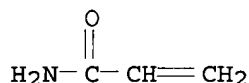
CN



CM 2

CRN 79-06-1

CMF C3 H5 N O



L14 ANSWER 7 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1987:58849 HCAPLUS

DN 106:58849

TI Polymeric photographic light stabilizers

IN Helling, Guenter; Sobel, Johannes; Langen, Hans

PA Agfa-Gevaert A.-G., Fed. Rep. Ger.

SO Ger. Offen., 44 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3501722	A1	19860724	DE 1985-3501722	19850119
	US 4943519	A	19900724	US 1986-816746	19860107
	EP 189059	A2	19860730	EP 1986-100207	19860109
	EP 189059	A3	19891129		
	EP 189059	B1	19920311		

R: BE, DE, FR, GB

JP 61169831 A2 19860731 JP 1986-4422 19860114

PRAI DE 1985-3501722 A 19850119

AB Polymer photog. light stabilizers having the formula (CR1R2CR3ZNR4COZ1R)n (R = a stabilizer group or a stabilizer-containing group; R2, R3, R4 = H or C1-4 alkyl; R1 = H, C1-4 alkyl, or CO2R2; Z = a bond or a divalent group; Z1 = O or NR4). Thus, a color photog. film with a UV absorber layer containing a Bu acrylate-3-[N-(methacryloyloxyethylaminocarbonyloxyethyl)-N-methylamino]-2-propenylidenemalononitrile copolymer stabilizer at 0.2 mmol/m2 was imagewise exposed and color neg. developed to show a blue

case
answer 9
instead

sensitivity of 0.10 lg(Ixt), a Dmin of 0.1, and brown color reproduction as brown vs. 0.07, 0.01, and brown coal reproduction as dirty violet for a control containing an acrylamidodiallylaminoallylidenemalononitrile copolymer.

IC ICM G03C001-34
ICS C09K015-22

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST photog UV light stabilizer; allylidenemalononitrile group polymer photog stabilizer

IT Photographic stabilizers
(allylidenemalononitrile group-containing polymers as light)

IT 106447-07-8 106447-08-9
RL: USES (Uses)
(photog. light stabilizer)

IT 106432-12-6P
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation and polymerization of)

IT 30674-80-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with (N-methyl-N-hydroxyethylamino)allylidenemalononitrile)

IT 106432-13-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with isocyanoethyl methacrylate)

IT 106447-07-8 106447-08-9
RL: USES (Uses)
(photog. light stabilizer)

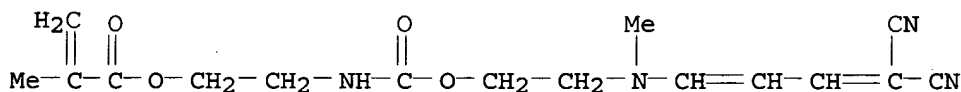
RN 106447-07-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-[[[2-[(4,4-dicyano-1,3-butadienyl)methylamino]ethoxy]carbonyl]amino]ethyl ester, polymer with methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 106432-12-6

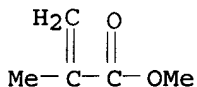
CMF C16 H20 N4 O4



CM 2

CRN 80-62-6

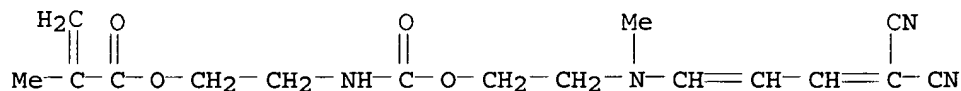
CMF C5 H8 O2



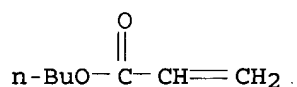
RN 106447-08-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-[[[2-[(4,4-dicyano-1,3-butadienyl)methylamino]ethoxy]carbonyl]amino]ethyl ester, polymer with butyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 106432-12-6
CMF C16 H20 N4 O4

CM 2

CRN 141-32-2
CMF C7 H12 O2

L14 ANSWER 8 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1987:11154 HCAPLUS

DN 106:11154

TI Stabilized photosensitive photographic materials

IN Sobel, Johanne; Helling, Guenter; Langen, Hans

PA Agfa-Gevaert A.-G., Fed. Rep. Ger.

SO Ger. Offen., 36 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3505423	A1	19860821	DE 1985-3505423	19850216
	JP 61189530	A2	19860823	JP 1986-28076	19860213
PRAI	DE 1985-3505423	A	19850216		

AB Photog. materials having improved light stability contain in ≥ 1 of the layers a high mol. weight compound with a repeating group that is derived from an aminoallylidenemalonic acid derivative The high mol. weight compound is a

polyaddn. or polycondensation product with urethane or ester linkages. Thus, a multilayer color neg. photog. material was coated with a layer containing a 3-(N,N-dihydroxyethylamino)allylidenemalononitrile-2,2,4-trimethyl-1,6-diisocyanatohexane polymer 0.2 mmol and gelatin 1 g/m² and a layer of gelatin at 1 g/m². The resultant material was then exposed to show a sensitivity decrease of 0.09 lg(Ixt) units, a Dmin increase of 0.01, and brown reproduction of a brown image vs. 0.07 lg(Ixt) units, 0.01, and a dirty violet reproduction of a brown image for a control containing an acrylamide-diallylaminoallylidenemalononitrile copolymer.

IC ICM G03C001-06

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST UV light stabilizer color photog; aminoallylidenemalonic acid deriv polymer stabilizer; allylidenemalonic acid amino deriv polymer; malonic acid aminoallylidene deriv polymer

IT Photographic stabilizers

(aminoallylidenemalonic acid group-containing polymers as UV light)

IT Light stabilizers
(UV, aminoallylidenemalonic acid group-containing polymers as, for color photog. materials)

IT Photographic films
(color, neg., with layers containing aminoallylidenemalonic acid group-containing polymer for improved light stability)

IT 105710-28-9 105710-29-0
RL: USES (Uses)
(UV light stabilizer, for color photog. materials)

IT 107-21-1, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with (methylhydroxyethyl)aminoallylidenemethyl cyanoacetate)

IT 111-42-2, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with acetanilidoallylidenemalononitrile)

IT 61600-13-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with diethanolamine)

IT 105744-06-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with ethylene glycol)

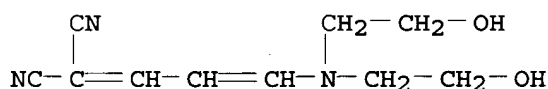
IT 105744-07-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with methylaminoethanol)

IT 105710-28-9 105710-29-0
RL: USES (Uses)
(UV light stabilizer, for color photog. materials)

RN 105710-28-9 HCAPLUS
CN Propanedinitrile, [3-[bis(2-hydroxyethyl)amino]-2-propenylidene]-, polymer with 1,6-diisocyanato-2,2,4-trimethylhexane (9CI) (CA INDEX NAME)

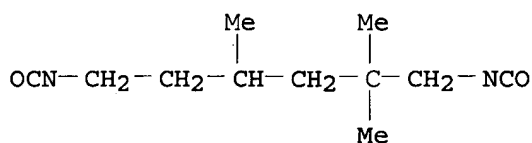
CM 1

CRN 105710-27-8
CMF C10 H13 N3 O2



CM 2

CRN 16938-22-0
CMF C11 H18 N2 O2



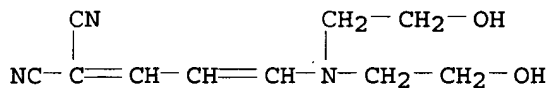
RN 105710-29-0 HCAPLUS
CN Butanedioic acid, polymer with [3-[bis(2-hydroxyethyl)amino]-2-

propenylidene]propanedinitrile (9CI) (CA INDEX NAME)

CM 1

CRN 105710-27-8

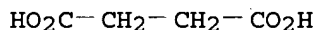
CMF C10 H13 N3 O2



CM 2

CRN 110-15-6

CMF C4 H6 O4



L14 ANSWER 9 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1984:129802 HCAPLUS

DN 100:129802

TI Photosensitive photographic silver halide material

IN Kojima, Tetsuro; Ishimaru, Shingo; Sugimoto, Naohiko; Ikeda, Tadashi

PA Fuji Photo Film Co., Ltd. , Japan

SO Ger. Offen., 69 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3313574	A1	19831020	DE 1983-3313574	19830414
	JP 58178351	A2	19831019	JP 1982-61937	19820414
	JP 01053455	B4	19891114		
	GB 2118315	A1	19831026	GB 1983-8541	19830329
	GB 2118315	B2	19851211		
	US 4443534	A	19840417	US 1983-484331	19830412
PRAI	JP 1982-61937	A	19820414		

AB UV-absorbing (300-400 nm) polymeric latex which prevents UV degradation of Ag halide photog. emulsions and films consists of a homopolymer or a copolymer with a repeating unit of the formula $\text{CH}_2\text{:CRZ(Z1)m(Z2)nR1}$ (I: R = H, C1-4 alkyl, or Cl; Z = CONH, CO₂, or C₆H₄; Z1 = C1-20 alkylene or C6-20 arylene; Z2 = CO₂, OCO, CONH, NHCO, SO₂NH, NHSO₂, SO₂, or O; m = 0 or 1; n = 0 or 1; and R1 = UV absorbing group derived from a compound of the formula R₂R₃NCH:CHCH:CR₄R₅ where R₂ and R₃ = H, C1-20 alkyl, and C6-20 aryl or together form a ring; R₄ = CN, CO₂R₆, CONHR₆, COR₆, or SO₂R₆; R₅ = CN, CO₂R₇, CONHR₇, COR₇, or SO₂R₇; and R₆ and R₇ = C1-20 alkyl or C6-20 aryl or together form 1,3-dioxocyclohexane, barbituric acid, 1,2-diaza-3,5-dioxocyclopentane, or 2,4-diaza-1-alkoxy-3,5-dioxocyclohexane group). Thus, in the preparation of P-CH₂:CHC₆H₄SO₂C(CO₂Et):CHCH:CHNET₂ (I), 3-anilinoacroleinanil and Et (4-vinylphenyl)sulfonylacetate were reacted in acetic anhydride, and the product after removal of the anhydride was reacted with EtOH and Et₂NH. Then, I was copolymd. with Me methacrylate to form the polymeric latex

which was dispersed in gelatin. A layer of this dispersion coated on a cellulose triacetate support showed high UV absorption and in a Ag halide colored film gave good color fastness and high image contrast.

IC G03C001-06; G03C001-82; G03C011-10

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST UV absorbing polymer color photog; film color UV absorber polymer

IT Photographic stabilizers

(UV-absorbing polymer latexes as)

IT Light stabilizers

(UV, polymer latexes as, for photog. materials)

IT Photographic films

(color, containing UV-absorbing polymer latexes for improved stability)

IT 89208-26-4 89208-29-7 89208-32-2

RL: USES (Uses)

(photog. materials containing UV-absorbing latexes of, for improved light stability)

IT 89208-30-0P 89208-31-1P

RL: PREP (Preparation)

(preparation and UV-absorbing properties of latex of, photog. applications in relation to)

IT 89206-21-3P 89206-22-4P 89206-23-5P

RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(preparation and polymerization of)

IT 920-46-7

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with Et (ethylhydroxyethylamino)phenylsulfonylpentadienoate)

IT 89206-24-6

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with Et phenylsulfonylacetate derivs.)

IT 89206-27-9

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with acryloyl chloride)

IT 109-77-3 7605-30-3 89206-25-7

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with anilinoacrolein anil)

IT 814-68-6

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with ethylhydroxyethylaminoallylidenemalononitrile)

IT 89206-26-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with methacryloyl chloride)

IT 89208-30-0P

RL: PREP (Preparation)

(preparation and UV-absorbing properties of latex of, photog. applications in relation to)

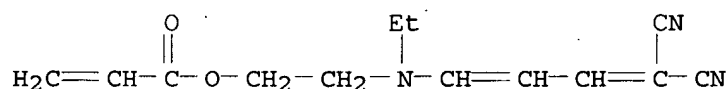
RN 89208-30-0 HCAPLUS

CN 2-Propenoic acid, butyl ester, polymer with 2-[(4,4-dicyano-1,3-butadienyl)ethylamino]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 89206-23-5

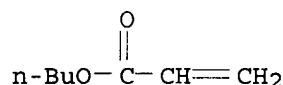
CMF C13 H15 N3 O2



CM 2

CRN 141-32-2

CMF C7 H12 O2



L14 ANSWER 10 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1981:470998 HCAPLUS

DN 95:70998

TI Polymeric ultraviolet absorbers and photographic material including them

IN Beretta, Paolo; Vallarino, Angelo

PA Minnesota Mining and Manufacturing Co., USA

SO Eur. Pat. Appl., 25 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 27242	A1	19810422	EP 1980-106073	19801007
	EP 27242	B1	19850102		
	R: DE, FR, GB				
	US 4307184	A	19811222	US 1980-189361	19800922
	WO 8101059	A1	19810416	WO 1980-EP111	19801013
	W: JP				
	JP 56501338	T2	19810917	JP 1980-502370	19801013
	JP 01019138	B4	19890410		
PRAI	IT 1979-50552	A	19791012		
	WO 1980-EP111	W	19801013		

AB External protective UV filter layer for color photog. comprises gelatin and a polymer containing aminoallylidenemalononitrile group as a UV absorber. Thus, a cellulose triacetate support was coated with a mixture containing 6% H₂O-EtOH (70:30) solution of acrylamide-diallylaminoallylidenemalononitrile polymer, and 8% gelatin solution. Absorption maximum of the obtained layer was at $\lambda = 383$ nm, and absorption for $\lambda > 400$ nm was <10%.

IC G03C001-92; C08F026-02

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic Processes)

ST aminoallylidenemalonitrile polymer UV filter photog; color photog UV protective layer

IT Photography, color

(protective UV absorbing layer for, containing condensation product of diallylaminoallylidenemalononitrile with ethylenically unsatd. monomer)

IT 78339-25-0 78339-27-2 78339-28-3

78339-29-4 78339-31-8 78570-99-7

78571-00-3

RL: USES (Uses)

(protective UV filter layer for color photog. containing)

2 think.

Answer 9
is better.

IT 78339-25-0 78339-27-2 78339-28-3
78339-29-4 78339-31-8 78570-99-7
78571-00-3

RL: USES (Uses)

(protective UV filter layer for color photog. containing)

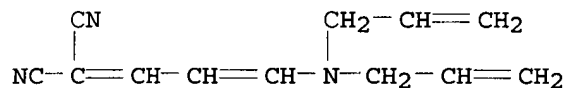
RN 78339-25-0 HCAPLUS

CN 2-Propenamide, polymer with [3-(di-2-propenylamino)-2-propenylidene]propanedinitrile (9CI) (CA INDEX NAME)

CM 1

CRN 78339-24-9

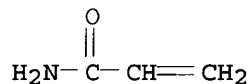
CMF C12 H13 N3



CM 2

CRN 79-06-1

CMF C3 H5 N O



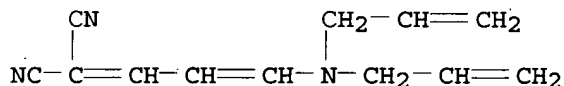
RN 78339-27-2 HCAPLUS

CN 2-Propenoic acid, polymer with [3-(di-2-propenylamino)-2-propenylidene]propanedinitrile (9CI) (CA INDEX NAME)

CM 1

CRN 78339-24-9

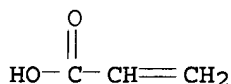
CMF C12 H13 N3



CM 2

CRN 79-10-7

CMF C3 H4 O2



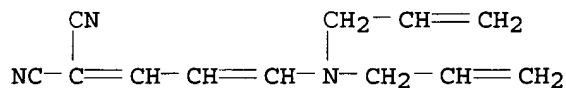
RN 78339-28-3 HCAPLUS

CN Propanedinitrile, [3-(di-2-propenylamino)-2-propenylidene]-, polymer with 1-ethenyl-2-pyrrolidinone (9CI) (CA INDEX NAME)

CM 1

CRN 78339-24-9

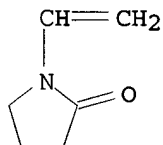
CMF C12 H13 N3



CM 2

CRN 88-12-0

CMF C6 H9 N O



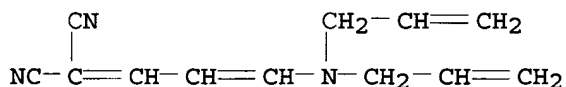
RN 78339-29-4 HCAPLUS

CN Propanedinitrile, [3-(di-2-propenylamino)-2-propenylidene]-, polymer with 3-ethenyl-2-oxazolidinone (9CI) (CA INDEX NAME)

CM 1

CRN 78339-24-9

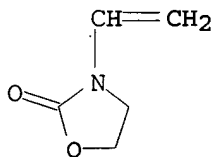
CMF C12 H13 N3



CM 2

CRN 4271-26-5

CMF C5 H7 N O2



RN 78339-31-8 HCAPLUS

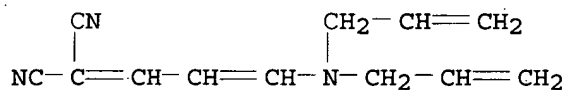
CN 2-Propenamide, polymer with [3-(di-2-propenylamino)-2-

propenylidene]propanedinitrile and 2-propen-1-amine hydrochloride (9CI)
(CA INDEX NAME)

CM 1

CRN 78339-24-9

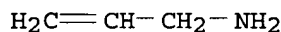
CMF C12 H13 N3



CM 2

CRN 10017-11-5

CMF C3 H7 N . Cl H

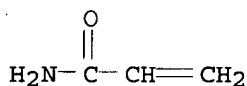


● HCl

CM 3

CRN 79-06-1

CMF C3 H5 N O



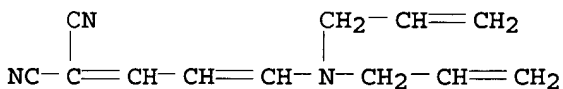
RN 78570-99-7 HCAPLUS

CN 2-Propenoic acid, ethyl ester, polymer with [3-(di-2-propenylamino)-2-propenylidene]propanedinitrile (9CI) (CA INDEX NAME)

CM 1

CRN 78339-24-9

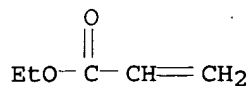
CMF C12 H13 N3



CM 2

CRN 140-88-5

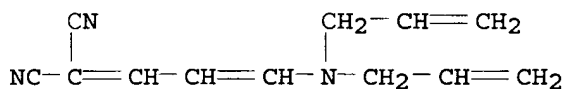
CMF C5 H8 O2



RN 78571-00-3 HCAPLUS
 CN 2-Propenamide, polymer with [3-(di-2-propenylamino)-2-propenylidene]propanedinitrile and N-2-propenyl-2-propen-1-amine hydrochloride (9CI) (CA INDEX NAME)

CM 1

CRN 78339-24-9
 CMF C12 H13 N3



CM 2

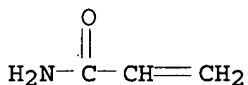
CRN 6147-66-6
 CMF C6 H11 N . Cl H



● HCl

CM 3

CRN 79-06-1
 CMF C3 H5 N O

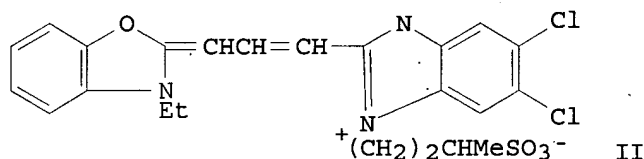
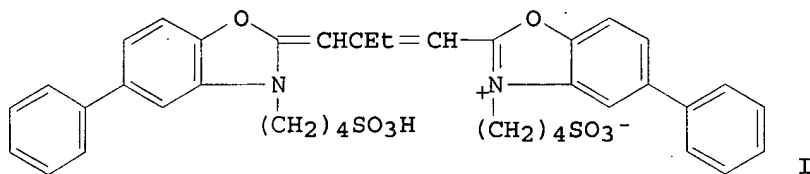


L14 ANSWER 11 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1981:470997 HCAPLUS
 DN 95:70997
 TI Silver halide photographic emulsions including dye sensitizers and supersensitizing or stabilizing amounts of a polymeric compound
 IN Delfino, Gerolamo
 PA Minnesota Mining and Manufacturing Co., USA
 SO Eur. Pat. Appl., 29 pp.
 CODEN: EPXXDW
 DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 27259	A1	19810422	EP 1980-106139	19801009
	EP 27259	B1	19831012		
	R: DE, FR, GB				
	JP 56153337	A2	19811127	JP 1980-142843	19801013
	JP 02037571	B4	19900824		
	US 4307183	A	19811222	US 1980-196574	19801014
PRAI	IT.1979-50551	A	19791012		
GI					



AB The sensitivity and stability of a cyanine dye-sensitized photog. emulsion, especially radiog., are increased by including in the emulsion a polymeric product prepared using an aminoallylidenemalononitrile. Thus, a radiog. Ag halide emulsion containing spectral sensitizers I 31 and II 83 mg/mol Ag and acrylamide-allylaminoallylidenemalononitrile polymer (III) 332 mg/mol Ag showed a Δ speed log E value of +0.09 vs. 0.0 for a III-free control.

IC G03C001-28

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic Processes)
Section cross-reference(s): 71

ST supersensitization polymer photog radiog emulsion

IT Photographic emulsions
(supersensitization in, aminoallylidenemalononitrile-containing polymers in)

IT Radiography
(supersensitization of photog. emulsions for, aminoallylidenemalononitrile-containing polymers in)

IT Photographic sensitizers
(super-, aminoallylidenemalononitrile-containing polymers in conjunction with cyanine-dye)

IT 23368-58-3 40703-12-6 78326-95-1
RL: USES (Uses)
(radiog. silver halide emulsion supersensitization by aminoallylidenemalononitrile-containing polymer and)

IT 78339-25-0 78339-26-1 78339-27-2
78339-28-3 78339-29-4 78339-30-7
78339-31-8
RL: USES (Uses)
(radiog. silver halide emulsion supersensitization by cyanine dye and)

IT 78339-25-0 78339-26-1 78339-27-2

78339-28-3 78339-29-4 78339-30-7
78339-31-8

RL: USES (Uses)

(radiog. silver halide emulsion supersensitization by cyanine dye and)

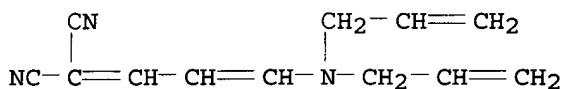
RN 78339-25-0 HCAPLUS

CN 2-Propenamide, polymer with [3-(di-2-propenylamino)-2-propenylidenel]propanedinitrile (9CI) (CA INDEX NAME)

CM 1

CRN 78339-24-9

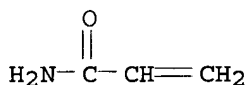
CMF C12 H13 N3



CM 2

CRN 79-06-1

CMF C3 H5 N O



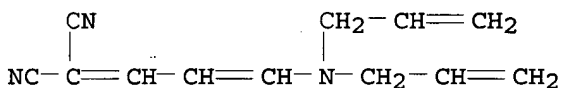
RN 78339-26-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with [3-(di-2-propenylamino)-2-propenylidenel]propanedinitrile (9CI) (CA INDEX NAME)

CM 1

CRN 78339-24-9

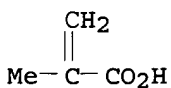
CMF C12 H13 N3



CM 2

CRN 79-41-4

CMF C4 H6 O2



RN 78339-27-2 HCAPLUS

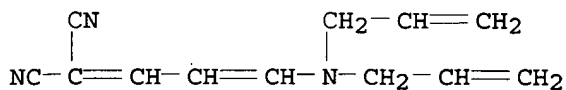
CN 2-Propenoic acid, polymer with [3-(di-2-propenylamino)-2-

propenylidene]propanedinitrile (9CI) (CA INDEX NAME)

CM 1

CRN 78339-24-9

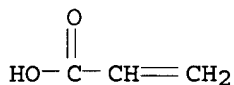
CMF C12 H13 N3



CM 2

CRN 79-10-7

CMF C3 H4 O2



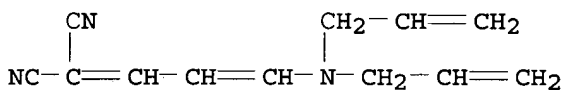
RN 78339-28-3 HCAPLUS

CN Propanedinitrile, [3-(di-2-propenylamino)-2-propenylidene]-, polymer with 1-ethenyl-2-pyrrolidinone (9CI) (CA INDEX NAME)

CM 1

CRN 78339-24-9

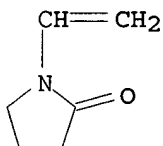
CMF C12 H13 N3



CM 2

CRN 88-12-0

CMF C6 H9 N O

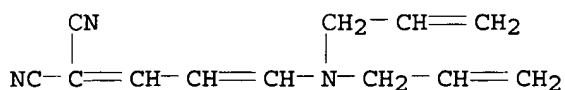


RN 78339-29-4 HCAPLUS

CN Propanedinitrile, [3-(di-2-propenylamino)-2-propenylidene]-, polymer with 3-ethenyl-2-oxazolidinone (9CI) (CA INDEX NAME)

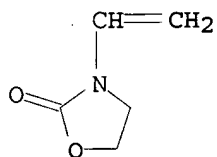
CM 1

CRN 78339-24-9
CMF C12 H13 N3



CM 2

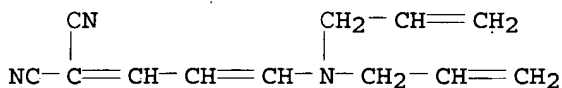
CRN 4271-26-5
CMF C5 H7 N O2



RN 78339-30-7 HCAPLUS
CN 2-Propenamide, 2-methyl-, polymer with [3-(di-2-propenylamino)-2-propenylidene]propanedinitrile (9CI) (CA INDEX NAME)

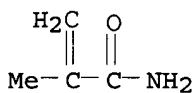
CM 1

CRN 78339-24-9
CMF C12 H13 N3



CM 2

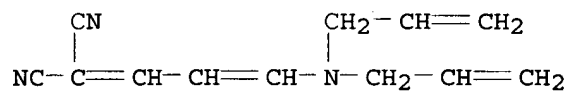
CRN 79-39-0
CMF C4 H7 N O



RN 78339-31-8 HCAPLUS
CN 2-Propenamide, polymer with [3-(di-2-propenylamino)-2-propenylidene]propanedinitrile and 2-propen-1-amine hydrochloride (9CI) (CA INDEX NAME)

CM 1

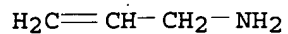
CRN 78339-24-9
CMF C12 H13 N3



CM 2

CRN 10017-11-5

CMF C3 H7 N . Cl H

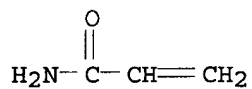


● HCl

CM 3

CRN 79-06-1

CMF C3 H5 N O



=>

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Sam J. Lee Examiner #: 176060 Date: 6-16-2005
 Art Unit: 1752 Phone Number 301-2-1333 Serial Number: 10/689,482
 Mail Box and Bldg/Room Location: 4D66 Results Format Preferred (circle): PAPER DISK E-MAIL
 (Rem.)

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched.
 Include the elected species or structures, keywords, synonyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Plz. see B.I.B. SCIENTIFIC REFERENCE BR
 Inventors (please provide full names): _____ Sci. & Tech. Inf. Ctr.

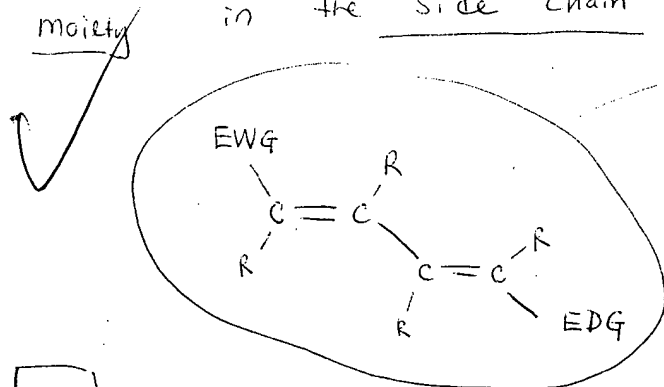
JUN 17 REC'D

Earliest Priority Filing Date: _____ Pat. & T.M. Office

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

See 689D

Please search for a polymer which has the following moiety in the side chain



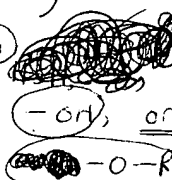
EWG = non-aromatic, electron withdrawing gp.

e.g.
 carbonyl, $(-\overset{\text{O}}{\underset{\text{O}}{\text{C}}}-)$, cyano $(-\text{C}\equiv\text{N})$, imino $(-\text{N}=\text{C}-)$,
 carboxylic acid $(-\text{COOH})$, carboxamido $(-\overset{\text{O}}{\underset{\text{O}}{\text{C}}}-\text{NH}-)$,
 carboxylic ester $(-\text{COOR})$, carboximido,
 or sulfonyl gp.

(don't worry about these

R gp's)

EDG (electron donating gp.)

 $-\text{OCH}_3$ 

(where $\text{R}_1 = \text{H}$, alkyl (cyclic/acyclic) or heteroalkyl)

STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: <u>K. Fuller</u>	NA Sequence (#) _____	STN <u>✓</u>
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) <u>2</u>	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr. Link _____
Date Completed: <u>7/5/05</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>30</u>	Fulltext _____	Sequence Systems _____
Clerical Prep Time: <u>30</u>	Patent Family _____	WWW/Internet _____
Online Time: <u>30</u>	Other _____	Other (specify) _____

batch

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Sin J. Lee Examiner #: 76060 Date: 6-16-2005
 Art Unit: 1752 Phone Number 302-1333 Serial Number: 10/689,482
 Mail Box and Bldg/Room Location: 9B60 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Plz. Acc Bib.

Inventors (please provide full names): _____

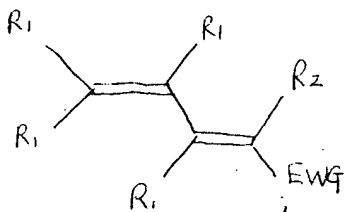
SCIENTIFIC REFERENCE BR
Sci & Tech Inf. Ctr

JUN 17 RECD

Earliest Priority Filing Date: _____

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

- Please search for a polymer which has the following moiety in the side chain.



EWG = non-aromatic, electron withdrawing gp.

Such as

carbonyl ($-\overset{\overset{\text{O}}{\parallel}}{\text{C}}-$), cyano ($-\text{C}\equiv\text{N}$), imino

($-\text{N}=\text{C}<$),

carboxylic acid ($-\text{COOH}$),

carboxylic ester ($-\text{COOR}$)

carboxamido ($-\overset{\overset{\text{O}}{\parallel}}{\text{C}}-\text{N}<$),

carboximido or

sulfonyl gp. ($-\overset{\overset{\text{O}}{\parallel}}{\text{S}}-\overset{\overset{\text{O}}{\parallel}}{\text{S}}-$)

Don't worry about these R gp's
 (but R2 ≠ EWG can form a ring)
 as long as this
 diene structure contains
 EWG gp, it is fine.

STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: <u>K. Fuller</u>	NA Sequence (#) _____	STN <u>✓</u>
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) <u>2</u>	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr. Link _____
Date Completed: <u>7/5/05</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>30</u>	Fulltext _____	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time: <u>30</u>	Other _____	Other (specify) _____

batch

=> file reg

FILE 'REGISTRY' ENTERED AT 09:33:38 ON 05 JUL 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2005 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 4 JUL 2005 HIGHEST RN 853727-85-2
DICTIONARY FILE UPDATES: 4 JUL 2005 HIGHEST RN 853727-85-2

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> file hcaplu

FILE 'HCAPLUS' ENTERED AT 09:33:43 ON 05 JUL 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is
held by the publishers listed in the PUBLISHER (PB) field (available
for records published or updated in Chemical Abstracts after December
26, 1996), unless otherwise indicated in the original publications.
The CA Lexicon is the copyrighted intellectual property of the
the American Chemical Society and is provided to assist you in searching
databases on STN. Any dissemination, distribution, copying, or storing
of this information, without the prior written consent of CAS, is
strictly prohibited.

FILE COVERS 1907 - 5 Jul 2005 VOL 143 ISS 2
FILE LAST UPDATED: 4 Jul 2005 (20050704/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> d que

L1 SCR 2043
L2 STR

O~~S~~O
8 @9 10

C~~O C=C=C=C*G1
@4 5 12 11 1 2 3

C=N
@6 @7

VAR G1=4/6/7/9

NODE ATTRIBUTES:

NSPEC IS RC AT 1
NSPEC IS RC AT 2
NSPEC IS RC AT 4
NSPEC IS RC AT 6
NSPEC IS RC AT 7
NSPEC IS RC AT 9
NSPEC IS RC AT 11
NSPEC IS RC AT 12
CONNECT IS E1 RC AT 5
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 12

STEREO ATTRIBUTES: NONE

L3 3788 SEA FILE=REGISTRY SSS FUL L2 AND L1
L11 STR

13
CN
}

C~~O
@4 5

C=N
@6 @7

O~~S~~O
8 @9 10

N~~C=C=C=C*G1
14 12 11 1 2 3

VAR G1=4/6/7/9

NODE ATTRIBUTES:

NSPEC IS RC AT 1
NSPEC IS RC AT 2
NSPEC IS RC AT 4
NSPEC IS RC AT 6
NSPEC IS RC AT 7
NSPEC IS RC AT 9
NSPEC IS RC AT 11
NSPEC IS RC AT 12
NSPEC IS RC AT 14

CONNECT IS E1 RC AT 5
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 14

STEREO ATTRIBUTES: NONE

L13 24 SEA FILE=REGISTRY SUB=L3 SSS FUL L11
L15 3764 SEA FILE=REGISTRY ABB=ON L3 NOT L13
L18 1967 SEA FILE=REGISTRY ABB=ON L15 NOT 46.150.18/RID
L19 1433 SEA FILE=HCAPLUS ABB=ON L18
L21 21 SEA FILE=HCAPLUS ABB=ON L19 AND CHROMOPHOR?

=> d l21 bib abs ind hitstr 1-21

L21 ANSWER 1 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2005:239208 HCAPLUS
DN 142:311998
TI Assaying transferase activity by using an artificial, multifunctional
substrate comprising a small-molecule component linked to
biopolymer-substrate-mimetic component
IN Gellibolian, Robert; Rouhani, Riaz
PA USA
SO PCT Int. Appl., 66 pp.
CODEN: PIXXD2

DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005024380	A2	20050317	WO 2004-US29004	20040903
	WO 2005024380	A3	20050526		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRAI US 2003-499863P P 20030903

OS MARPAT 142:311998

AB Embodiments of the present invention are directed to sensitive, specific, and com. feasible assays for transferase activity. Various embodiments of the present invention include artificial, multifunctional substrates specific for particular transferases that are chemical altered by the transferases to produce easily detectable, modified, multifunctional substrates. In one class of embodiments, the artificial, multifunctional substrate comprises a small-mol.-substrate component, or small-mol.-substrate-analog component, linked by a linking component to a biopolymer-substrate-mimetic or biopolymer-substrate-analog component. At least two, generally well-separated reporter moieties are included in the artificial, multifunctional substrate. The transferase, for which the artificial, multifunctional substrate is designed to serve as an assay

reagent, catalyzes a generally covalent modification of the artificial, multifunctional substrate to produce a modified, artificial, multifunctional substrate reaction product in which the two reporter moieties are closely positioned to one another. When closely positioned to one another, the reporter moieties are detectable by one of various instrumental techniques. The artificial, multifunctional substrates for assaying protein kinase A, PCAF histone acetyltransferase, and protein arginine methyltransferase PRMT-1 are prepared

IC ICM G01N

CC 7-1 (Enzymes)

ST transferase detn small mol biopolymer mimetic linker substrate

IT Functional groups

(Diels-Adler, linker containing; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Enzyme functional sites

(active; transferase determination using artificial, multifunctional substrate

comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Functional groups

(alc., linker containing; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Functional groups

(alkoxycarbonyl groups, linker containing; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Functional groups

(amidate, linker containing; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT DNA

Glycoproteins

Lipids, uses

Polysaccharides, uses

Proteins

RNA

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)

(biopolymer substrate; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Peptide library

(biopolymer-substrate-mimetic; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Functional groups

(carbamate, linker containing; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Functional groups

(carbonate, linker containing; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Functional groups

(diene, linker containing; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Functional groups

(ether groups, linker containing; transferase determination using artificial,

multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Functional groups
(glycosyl, of small-mol. component; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Amide group
Amino group
Sulphydryl group
(linker containing; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Acetyl group
Alkyl groups
Methyl group
Phosphate group
(of small-mol. component; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT **Chromophores**
Fluorescent dyes
Fluorescent substances
(reporter moiety; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Nucleoside analogs
Nucleosides, uses
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(small-mol. component; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Functional groups
(sulfate, of small-mol. component; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Fluorescence resonance energy transfer
Fluorometry
Linking agents
NMR spectroscopy
Spectroscopy
(transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Biopolymers
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Functional groups
(ubiquinyl, of small-mol. component; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT 848085-24-5P
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(PCAF substrate; transferase determination using artificial, multifunctional

- substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)
- IT 9054-51-7, Histone acetyltransferase
RL: ANT (Analyte); ANST (Analytical study)
(PCAF; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)
- IT 848085-23-4P
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(PRMT-1 substrate; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)
- IT 65189-71-1 584554-49-4 697225-73-3 848053-30-5
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(biopolymer-substrate-mimetic component; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)
- IT 407-41-0, Phosphoserine 692-04-6, ϵ -Acetyl-L-lysine 1114-81-4, Phosphothreonine 1188-07-4, MonoMethyllysine 2259-86-1, Dimethyllysine 17035-90-4, Methyl arginine 21820-51-9, Phosphotyrosine 34378-59-1
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(peptide library containing; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)
- IT 848053-34-9P
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(protein kinase A substrate; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)
- IT 6268-49-1, Dabcyl 146368-14-1, Cy5 228272-69-3, Cy3b
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(reporter moiety; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)
- IT 56-65-5, 5'-ATP, uses 58-68-4, NADH 65-47-4, 5'-CTP 72-89-9, Acetyl-CoA 86-01-1, 5'-GTP 365-08-2, 5'-TTP 482-67-7, PAPS 524-14-1, Malonyl-CoA 2140-48-9, Butyryl-CoA 29908-03-0, S-Adenosyl-L-methionine 35094-46-3, ATP γ -S 37589-80-3 346686-99-5, γ -(2-Aminoethyloxy)-ATP 439919-14-9 439919-15-0 848053-31-6, Iodoacetyl-acylCoA 848053-33-8, S-Carboxy-methyladenosyl-homocysteine.
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(small-mol. component; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)
- IT 56-40-6, Glycine, uses 107-95-9, β -Alanine 196936-04-6
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(substrate containing; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)
- IT 9026-43-1, Serine protein kinase 9047-61-4, Transferase 80449-02-1, Tyrosine protein kinase 88201-45-0, Insulin receptor kinase 142008-29-5, Protein kinase A 445417-34-5, Protein arginine methyltransferase PRMT-1
RL: ANT (Analyte); ANST (Analytical study)

(transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

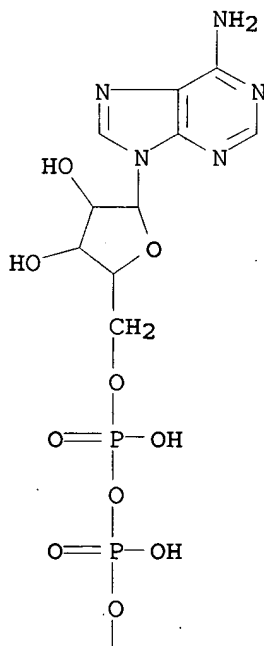
IT 848053-34-9P

RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(protein kinase A substrate; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

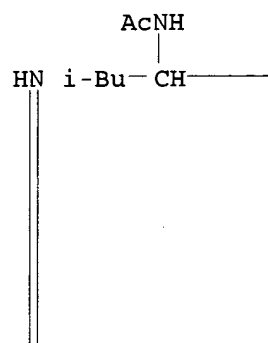
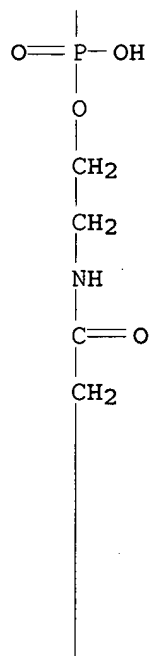
RN 848053-34-9 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -hydro- ω -hydroxy-, 2-ether with
N-acetyl-S-[9-(5'-adenylyloxy)-7,9-dihydroxy-7,9-dioxido-2-oxo-6,8-dioxo-3-aza-7,9-diphosphanon-1-yl]-L-cysteinyl-N6-[6-[2-[5-(1-ethyl-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene)-1,3-pentadienyl]-3,3-dimethyl-5-sulfo-3H-indolio]-1-oxohexyl]-N-(2-hydroxyethyl)-L-lysine inner salt, 8'-ether with N-acetyl-L-leucyl-L-arginyl-L-arginyl-L-alanyl-L-seryl-L-leucylglycyl-S-[2-[2-(3-hydroxy-1-oxopropyl)hydrazino]-2-oxoethyl]-L-cysteinyl-N6-[[6,7,7a,8a,9,10,16,18-octahydro-16,16,18,18-tetramethyl-14-sulfopyrano[3'',2'':3,4;5'',6'':3',4']dipyrido[1,2-a:1',2'-a']diindol-5-ium-2-yl]acetyl]-L-lysine inner salt (9CI) (CA INDEX NAME)

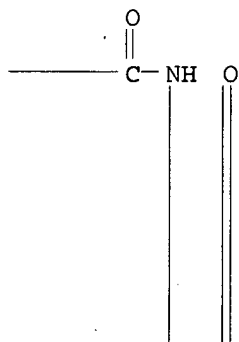
PAGE 1-A



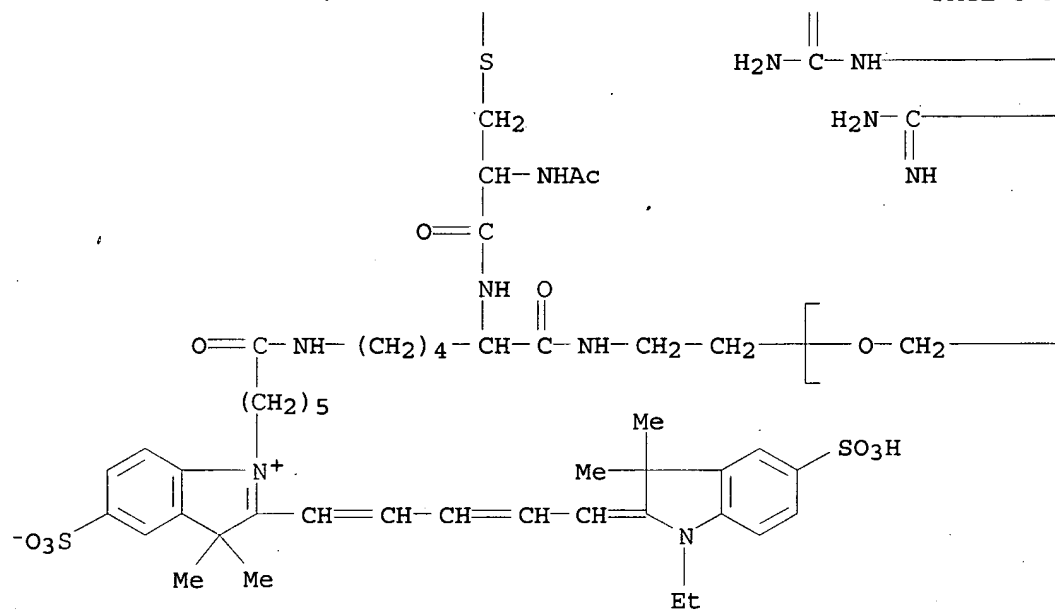
PAGE 2-A



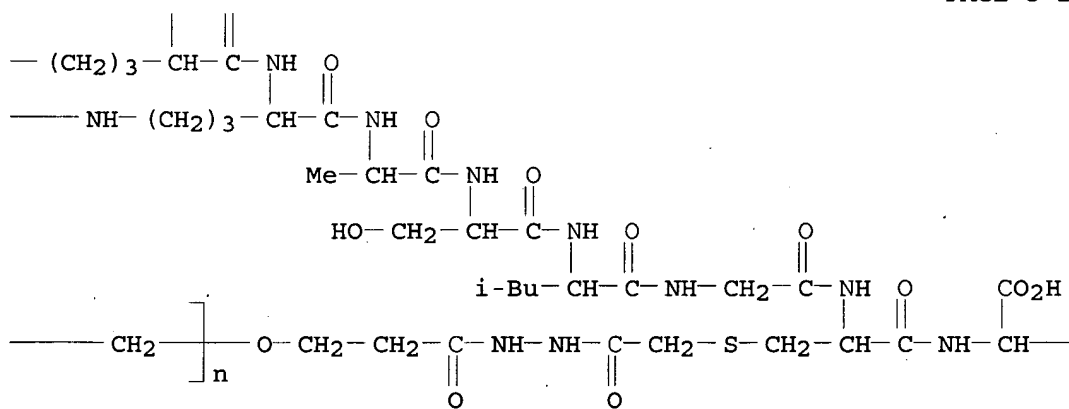
PAGE 2-B

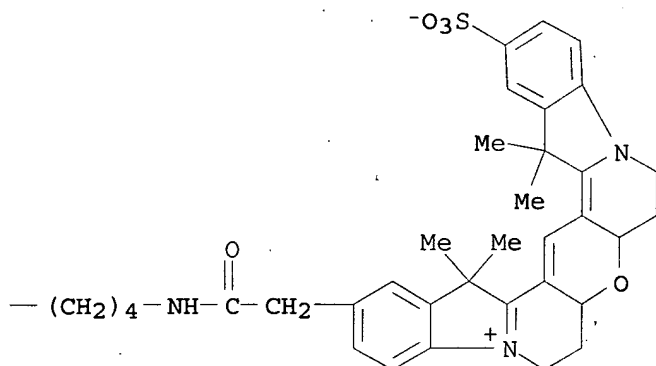


PAGE 3-A



PAGE 3 - B





L21 ANSWER 2 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2005:113390 HCAPLUS
 DN 142:374200
 TI Synthesis and Photophysical Properties of Polymers Containing a Novel Class of Light Emitters
 AU Leclerc, Nicolas; Pasareanu, Marie-Christine; Attias, Andre-Jean
 CS Laboratoire de Chimie des Polymeres, UMR CNRS 7610, Universite Pierre et Marie Curie, Paris, 75252, Fr.
 SO Macromolecules (2005), 38(5), 1531-1534
 CODEN: MAMOBX; ISSN: 0024-9297
 PB American Chemical Society
 DT Journal
 LA English
 AB Monomers derived from blue-emitting **chromophores** were synthesized. Polymethacrylate- and polyester-based copolymers have been obtained by using free radical polymerization or the Mitsunobu reaction, resp. All the copolymers, incorporating the fluorescent center either as repeating units in main chain or as lateral groups are soluble in organic solvents. Two of the copolymers (P2 and P3) emit blue light whereas three copolymers (P1, P4, and P5) are yellowish emitters. All these results make these polymers potential candidates for the fabrication of PLEDs. Introducing longer alkyl chains into the terephthalic derived comonomers and using controlled radical copolymers. should reduce inter- and intrachains interactions and consequently allow to obtain blue light-emitting polymers.
 CC 35-4 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 73
 ST **chromophore** light emitter polyester prepn photophys property Mitsunobu reaction.
 IT Dehydration reaction
 (Mitsunobu reaction; synthesis and photophys. properties of polymers containing a novel class of light emitters)
 IT Polymerization
 (co-, radical; synthesis and photophys. properties of polymers containing a novel class of light emitters)
 IT **Chromophores**
 Fluorescence
 Molecular weight
 Molecular weight distribution
 (synthesis and photophys. properties of polymers containing a novel class

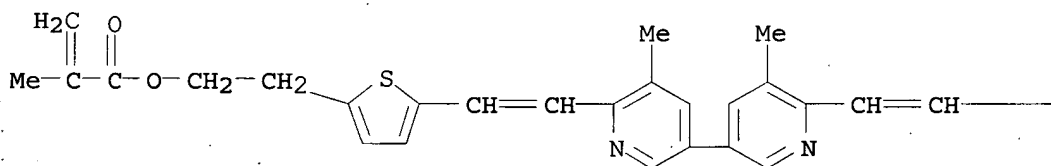
of light emitters)
 IT 849432-42-4P 849432-43-5P 849432-44-6P 849432-46-8P
 849432-47-9P 849432-48-0P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (synthesis and photophys. properties of polymers containing a novel class
 of light emitters)
 IT 109-65-9, 1-Bromobutane 610-92-4, 2,5-Dihydroxyterephthalic acid
 920-46-7, Methacryloyl chloride 7719-09-7, Thionyl chloride
 602279-56-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (synthesis and photophys. properties of polymers containing a novel class
 of light emitters)
 IT 101254-08-4P 103761-93-9P 849432-41-3P 849432-45-7P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (synthesis and photophys. properties of polymers containing a novel class
 of light emitters)
 IT 849432-42-4P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (synthesis and photophys. properties of polymers containing a novel class
 of light emitters)
 RN 849432-42-4 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, 2-[5-[2-[6'-[2-(5-hexyl-2-thienyl)ethenyl]-
 5,5'-dimethyl[3,3'-bipyridin]-6-yl]ethenyl]-2-thienyl]ethyl ester, polymer
 with methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

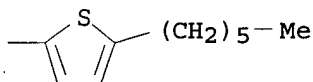
CRN 849432-41-3

CMF C36 H40 N2 O2 S2

PAGE 1-A



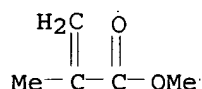
PAGE 1-B



CM 2

CRN 80-62-6

CMF C5 H8 O2



RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 3 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:986577 HCAPLUS
DN 141:277957
TI New infrared-sensitive photorefractive polymers and polymer composites
AU Schaerlaekens, Mark; Engels, Christiaan; Hameurlaine, Ahmed; Dehaen, Wim;
Samyn, Celest; Persoons, Andre
CS Lab. of Chemical and Biological Dynamics, Univ. of Leuven, Heverlee, 3001,
Belg.
SO Proceedings of SPIE-The International Society for Optical Engineering
(2003), 5216 (Organic Holographic Materials and Applications), 71-82
CODEN: PSISDG; ISSN: 0277-786X
PB SPIE-The International Society for Optical Engineering
DT Journal
LA English
AB Composites of N-aryl-carbazoles with photosensitizers, C60 and
(2,4,7-trinitro-9-fluorenylidene)malonitrile (TNFDM) were characterized by
four-wave mixing and two-beam coupling expts. at 680 and 780 nm. The
N-arylated carbazoles are bifunctional **chromophores** and their
relative orientation of dipole moment and polarizability tensor have a
significant effect on the figure-of-merit (FOM) of photorefractivity.
Studies were performed on mixed inorg./organic nanocomposites to extend the
photosensitivity of the samples to longer wavelengths, photocond. at 980
nm was studied on PbS colloids/PVK samples. A fully functionalized
photorefractive polymer was synthesized and analyzed by four-wave mixing
and two beam coupling expts. The polymer showed a strange oscillating
behavior in diffraction efficiency and gain.
CC 35-4 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 36, 73
ST fluorenylidene malonitrile arylcarbazole photosensitizer fullerene
composite photorefractivity; cyanomethylene alkyl methacrylate monomer
prepn polymn photorefractive polymer prepn
IT Photoconductivity
(IR; preparation and photocond. and diffraction of IR-sensitive
photorefractive polymers and composites with C60 and TNFDM)
IT Polarizability
(optical; preparation and photocond. and diffraction of IR-sensitive
photorefractive polymers and composites with C60 and TNFDM)
IT Photochemistry
(photosensitizers; preparation and photocond. and diffraction of
IR-sensitive photorefractive polymers and composites with C60 and
TNFDM)
IT Dipole moment
Lattice dynamics
Optical absorption
Photorefractive effect
Photorefractive materials
(preparation and photocond. and diffraction of IR-sensitive photorefractive
polymers and composites with C60 and TNFDM)
IT Polymerization
(radical; preparation and photocond. and diffraction of IR-sensitive
photorefractive polymers and composites with C60 and TNFDM)

IT 42055-20-9P 758722-70-2P 758722-71-3P 758722-72-4P 758722-73-5P
758722-75-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(intermediate; preparation and photocond. and diffraction of IR-sensitive
photorefractive polymers and composites with C60 and TNFDM)

IT 758722-76-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(monomer; preparation and photocond. and diffraction of IR-sensitive
photorefractive polymers and composites with C60 and TNFDM)

IT 1172-02-7 57103-18-1 99685-96-8, C60 Fullerene 255829-29-9
255829-32-4 431078-36-3 758722-78-0

RL: PRP (Properties)
(preparation and photocond. and diffraction of IR-sensitive photorefractive
polymers and composites with C60 and TNFDM)

IT 758722-77-9P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and photocond. and diffraction of IR-sensitive photorefractive
polymers and composites with C60 and TNFDM)

IT 108-24-7, Acetic anhydride 288-32-4, Imidazole, reactions 920-46-7,
Methacryloyl chloride 4048-33-3, 6-Aminohexanol 4701-17-1 23051-44-7
58479-61-1, tert-Butylchlorodiphenylsilane

RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation and photocond. and diffraction of IR-sensitive photorefractive
polymers and composites with C60 and TNFDM)

IT 758722-77-9P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and photocond. and diffraction of IR-sensitive photorefractive
polymers and composites with C60 and TNFDM)

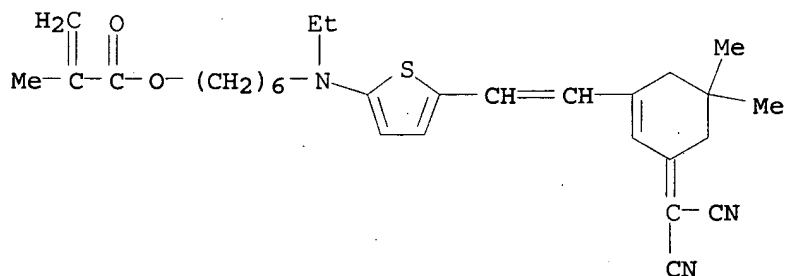
RN 758722-77-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 6-(9H-carbazol-9-yl)hexyl ester, polymer with
6-[[5-[2-[3-(dicyanomethylene)-5,5-dimethyl-1-cyclohexen-1-yl]ethenyl]-2-
thienyl]ethylamino]hexyl 2-methyl-2-propenoate and dodecyl
2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 758722-76-8

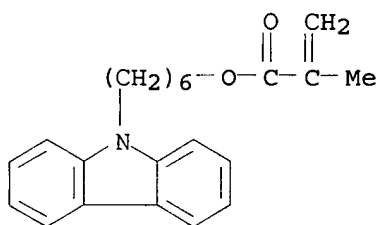
CMF C29 H37 N3 O2 S



CM 2

CRN 128629-00-5

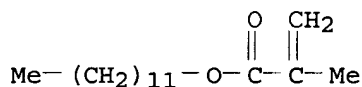
CMF C22 H25 N O2



CM 3

CRN 142-90-5

CMF C16 H30 O2



RE.CNT 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 4 OF 21 HCAPLUS COPYRIGHT 2005 ACS OR STN

AN 2001:772087 HCAPLUS

DN 135:341173

TI Nucleic acid-coupled colorimetric analyte detectors using self-assembling
polydiacetylene liposomes

IN Charych, Deborah H.; Jonas, Ulrich

PA Regents of the University of California, USA

SO U.S., 96 pp., Cont.-in-part of U.S. Ser. No. 461,509.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 11

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6306598	B1	20011023	US 1999-337973	19990621
	US 6001556	A	19991214	US 1996-592724	19960126
	EP 1460423	A1	20040922	EP 2004-1595	19960213
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
	US 6183772	B1	20010206	US 1996-609312	19960301
	US 6022748	A	20000208	US 1997-920501	19970829
	US 6080423	A	20000627	US 1997-944257	19971006
	US 6180135	B1	20010130	US 1997-944323	19971006
	US 6468759	B1	20021022	US 1998-33557	19980302
	CA 2330937	AA	19991229	CA 1999-2330937	19990622
	JP 2004500006	T2	20040108	JP 2000-556063	19990622
	US 6395561	B1	20020528	US 1999-461509	19991214
	US 6485987	B1	20021126	US 2000-500295	20000208
	US 2001026915	A1	20011004	US 2000-734410	20001211
	US 6660484	B2	20031209		
PRAI	US 1992-976697	A2	19921113		
	US 1993-159927	A2	19931130		
	US 1994-289384	B2	19940811		
	US 1994-289384	B2	19940811		
	US 1994-328237	B2	19941024		

US 1995-389475	B3	19950213
US 1995-389475	B2	19950213
US 1996-592724	A3	19960126
US 1996-609312	A2	19960301
US 1997-38383P	P	19970214
US 1997-39749P	P	19970303
US 1997-50496P	P	19970623
US 1997-920501	A3	19970829
US 1997-944323	A2	19971006
US 1998-23898	A2	19980213
US 1998-33557	A2	19980302
US 1998-90266P	P	19980622
US 1998-103344	A2	19980623
US 1999-461509	A2	19991214
US 2000-500295	A2	20000208
US 1992-982189	B2	19921125
EP 1996-906444	A3	19960213
US 1997-944257	A3	19971006
US 1999-337973	A	19990621
WO 1999-US14029	W	19990622
US 1999-170190P	P	19991210

AB The present invention relates to methods and compns. for the direct detection of analytes and membrane conformational changes through the detection of color changes in biopolymeric materials. In particular, the present invention provides for the direct colorimetric detection of analytes using nucleic acid ligands at surfaces of polydiacetylene liposomes and related mol. layer systems. Liposomes were prepared from a lipid mixture of 95% 5,7-docosadiynoic acid and 5% 5,7-docosadiynoate succinimide. The liposome solution was photopolymd. with UV light (254 nm) and then reacted with RGGGAATTCGTR (R = OP(OH)(O)OCH₂(CH₂OH)CH(CH₂)₄NH₂) to make a probe.

IC C12Q001-68; C07H019-00; G01N033-543; G01N021-00

INCL 435006000

CC 9-5 (Biochemical Methods)

Section cross-reference(s): 3

ST nucleic acid coupled colorimetry polydiacetylene liposome

IT Neisseria gonorrhoeae

Vibrio vulnificus

(antibodies as ligands in detection of; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Amino group

Hydroxyl group

(as head groups in self-assembling monomer; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Amino acids, uses

Carboxylic acids, uses

RL: ARG (Analytical reagent use); PRP (Properties); ANST (Analytical study); USES (Uses)

(as head groups in self-assembling monomer; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Carbohydrates, uses

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)

(as ligand in biopolymeric detector; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Filters

(biopolymer immobilized on support of; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene

liposomes)

IT Fluoropolymers, uses
Glass, uses
Mica-group minerals, uses
RL: ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)
(biopolymer immobilized on support of; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Films
(biopolymeric; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Toxins
RL: ANT (Analyte); ANST (Analytical study)
(cholera; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Molecular recognition
(complexes; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Blood products
(components, detection of; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Sialic acids
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(conjugates, diacetylene derivs.; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Lipids, biological studies
Nucleic acids
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(conjugates; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Bacteria (Eubacteria)
Drugs
Fungi
Human immunodeficiency virus 1
Influenza virus
Ions
Parasite
Pathogen
Virus
(detection of; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Amino acids, analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(diacetylene derivs.; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT DNA
RL: ANT (Analyte); ANST (Analytical study)
(double-stranded; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Toxins
RL: ANT (Analyte); ANST (Analytical study)
(enterotoxins, Escherichia; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Disease, animal
(genetic; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Functional groups

Molecules
(hydrophobic; nucleic acid-coupled colorimetric analyte detectors using
self-assembling polydiacetylene liposomes)

IT Antibodies
RL: ARG (Analytical reagent use); DEV (Device component use); SPN
(Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES
(Uses)
(immobilized; nucleic acid-coupled colorimetric analyte detectors using
self-assembling polydiacetylene liposomes)

IT Erythrocyte
(in malarial Plasmodium detection with sialic acid-containing PDA films;
nucleic acid-coupled colorimetric analyte detectors using
self-assembling polydiacetylene liposomes)

IT Genetic element
RL: ANT (Analyte); ANST (Analytical study)
(intron, RNA; nucleic acid-coupled colorimetric analyte detectors using
self-assembling polydiacetylene liposomes)

IT Organelle
(lamella; nucleic acid-coupled colorimetric analyte detectors using
self-assembling polydiacetylene liposomes)

IT Aldehydes, properties
Amines, properties
Thiols (organic), properties
RL: PRP (Properties)
(nucleic acid ligands linked to polymerized self-assembling lipids through;
nucleic acid-coupled colorimetric analyte detectors using
self-assembling polydiacetylene liposomes)

IT Air analysis
Bacillus subtilis
Biosensors
Blood analysis
Chelating agents
Chromophores
Coils
Colorimetry
Conformation
Dopants
Electron acceptors
Electron donors
Escherichia coli
Functional groups
Helix (conformation)
Liposomes
Membranes, nonbiological
Nucleic acid hybridization
Pharmaceutical analysis
Plasmodium (malarial genus)
Self-assembled monolayers
Surfactants
Temperature
Urine analysis
Vibrio cholerae
pH
(nucleic acid-coupled colorimetric analyte detectors using
self-assembling polydiacetylene liposomes)

IT Agglutinins and Lectins
Antibodies
DNA
Double stranded RNA
Enzymes, analysis

Hormones, animal, analysis
 Nucleic acids
 Receptors
 Transcription factors
 Volatile organic compounds
 mRNA
 rRNA
 tRNA

RL: ANT (Analyte); ANST (Analytical study)
 (nucleic acid-coupled colorimetric analyte detectors using
 self-assembling polydiacetylene liposomes)

IT Antigens

Proteins, general, analysis

RL: ANT (Analyte); ARG (Analytical reagent use); ANST (Analytical study);
 USES (Uses)
 (nucleic acid-coupled colorimetric analyte detectors using
 self-assembling polydiacetylene liposomes)

IT Fibers

Sialic acids
 Trisaccharides

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (nucleic acid-coupled colorimetric analyte detectors using
 self-assembling polydiacetylene liposomes)

IT Biopolymers

Ligands

RL: ARG (Analytical reagent use); BPR (Biological process); BSU
 (Biological study, unclassified); ANST (Analytical study); BIOL
 (Biological study); PROC (Process); USES (Uses)
 (nucleic acid-coupled colorimetric analyte detectors using
 self-assembling polydiacetylene liposomes)

IT Probes (nucleic acid)

RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST
 (Analytical study); PREP (Preparation); USES (Uses)
 (nucleic acid-coupled colorimetric analyte detectors using
 self-assembling polydiacetylene liposomes)

IT Cardiolipins

Ceramides
 Cerebrosides
 Lysophosphatidylcholines
 Phosphatidic acids
 Phosphatidylcholines, analysis
 Phosphatidylethanolamines, analysis
 Phosphatidylglycerols
 Phosphatidylinositols
 Phosphatidylserines
 Polyoxyalkylenes, analysis
 Sphingomyelins
 Steroids, analysis

RL: ARU (Analytical role, unclassified); ANST (Analytical study)
 (nucleic acid-coupled colorimetric analyte detectors using
 self-assembling polydiacetylene liposomes)

IT Immobilization, biochemical

(of biopolymer on support; nucleic acid-coupled colorimetric analyte
 detectors using self-assembling polydiacetylene liposomes)

IT Dot blot hybridization

(reverse; nucleic acid-coupled colorimetric analyte detectors using
 self-assembling polydiacetylene liposomes)

IT Lipids, biological studies

RL: ARG (Analytical reagent use); BPR (Biological process); BSU
 (Biological study, unclassified); ANST (Analytical study); BIOL

(Biological study); PROC (Process); USES (Uses)
 (self-assembling; nucleic acid-coupled colorimetric analyte detectors
 using self-assembling polydiacetylene liposomes)

IT Holders
 (supports, biopolymer immobilized on; nucleic acid-coupled colorimetric
 analyte detectors using self-assembling polydiacetylene liposomes)

IT Oligosaccharides, uses
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (tetrasaccharides; nucleic acid-coupled colorimetric analyte detectors
 using self-assembling polydiacetylene liposomes)

IT Organelle
 (tubule; nucleic acid-coupled colorimetric analyte detectors using
 self-assembling polydiacetylene liposomes)

IT Detergents
 (zwitterionic; nucleic acid-coupled colorimetric analyte detectors
 using self-assembling polydiacetylene liposomes)

IT 7440-57-5, Gold, uses 7631-86-9, Silica, uses 9002-84-0, Teflon
 9002-88-4, Polyethylene 9003-53-6, Polystyrene 9012-36-6, Sepharose
 9041-35-4, Sephadex G 25 25014-41-9, Polyacrylonitrile
 RL: ARG (Analytical reagent use); DEV (Device component use); ANST
 (Analytical study); USES (Uses)
 (biopolymer immobilized on support of; nucleic acid-coupled
 colorimetric analyte detectors using self-assembling polydiacetylene
 liposomes)

IT 7440-21-3, Silicon, uses
 RL: ARG (Analytical reagent use); DEV (Device component use); ANST
 (Analytical study); USES (Uses)
 (chips, biopolymer immobilized on; nucleic acid-coupled colorimetric
 analyte detectors using self-assembling polydiacetylene liposomes)

IT 9001-51-8, Hexokinase
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (immobilization on PDA and NHS-PDA monolayer slides; nucleic
 acid-coupled colorimetric analyte detectors using self-assembling
 polydiacetylene liposomes)

IT 66990-32-7, 10,12-Pentacosadiynoic acid 138305-24-5,
 5,7-Pentacosadiynoic acid 178560-65-1, 5,7-Docosadiynoic acid
 RL: ARG (Analytical reagent use); PRP (Properties); RCT (Reactant); ANST
 (Analytical study); RACT (Reactant or reagent); USES (Uses)
 (in self-assembling monomer; nucleic acid-coupled colorimetric analyte
 detectors using self-assembling polydiacetylene liposomes)

IT 369375-91-7
 RL: ARG (Analytical reagent use); RCT (Reactant); ANST (Analytical study);
 RACT (Reactant or reagent); USES (Uses)
 (liposomes containing; nucleic acid-coupled colorimetric analyte detectors
 using self-assembling polydiacetylene liposomes)

IT 50-99-7, D-Glucose, analysis 9002-61-3, Chorionic gonadotropin
 9026-81-7, Nuclease 9031-56-5, Ligase 37209-28-2, Bungarotoxin
 120178-12-3, Telomerase 344315-57-7, Polymerase
 RL: ANT (Analyte); ANST (Analytical study)
 (nucleic acid-coupled colorimetric analyte detectors using
 self-assembling polydiacetylene liposomes)

IT 9001-84-7, Phospholipase A2
 RL: ANT (Analyte); ARG (Analytical reagent use); BAC (Biological activity
 or effector, except adverse); BSU (Biological study, unclassified); ANST
 (Analytical study); BIOL (Biological study); USES (Uses)
 (nucleic acid-coupled colorimetric analyte detectors using
 self-assembling polydiacetylene liposomes)

IT 9001-86-9, Phospholipase C 9001-87-0, Phospholipase D
 RL: ANT (Analyte); BAC (Biological activity or effector, except adverse);
 BSU (Biological study, unclassified); ANST (Analytical study); BIOL

(Biological study)
 (nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT 56-23-5, Carbon tetrachloride, analysis 60-29-7, Diethylether, analysis 64-17-5, Ethanol, analysis 67-63-0, Isopropanol, analysis 67-66-3, Chloroform, analysis 71-36-3, 1-Butanol, analysis 71-43-2, Benzene, analysis 107-06-2, Ethylene dichloride, analysis 108-88-3, Toluene, analysis 110-82-7, Cyclohexane, analysis 111-27-3, 1-Hexanol, analysis 111-87-5, 1-Octanol, analysis

RL: ANT (Analyte); PRP (Properties); ANST (Analytical study)
 (nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT 71-00-1D, L-Histidine, conjugates with amine-coupled PDA, uses 18656-38-7, Dmpc 37758-47-7, Ganglioside GM1 104443-58-5, Ganglioside GT1b

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT 137300-78-8, MJ33

RL: ARG (Analytical reagent use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT 370159-23-2 370159-24-3

RL: ARG (Analytical reagent use); PRP (Properties); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent); USES (Uses)
 (nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT 370649-87-9P

RL: ARG (Analytical reagent use); PRP (Properties); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
 (nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT 57-88-5, Cholesterol, analysis 63-42-3D, Lactose, diacetylene derivs. 83-44-3 123-78-4 151-21-3, Sodium dodecyl sulfate, analysis 460-12-8D, Diacetylene, derivs. 9036-19-5, Octoxynol 25322-68-3, Polyethylene glycol 29557-51-5, Dodecylphosphocholine 34344-66-6 58846-77-8, Decylglucoside 140708-39-0 369375-82-6

RL: ARU (Analytical role; unclassified); ANST (Analytical study)
 (nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT 66990-30-5, 10,12-Tricosadiynoic acid

RL: ARU (Analytical role; unclassified); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent)
 (nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT 7646-85-7, Zinc chloride, biological studies

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
 (nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT 10108-64-2, Cadmium chloride (CdCl2)

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
 (nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT 146064-06-4P 369375-83-7P 369375-93-9P

RL: BPR (Biological process); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP

(Preparation); PROC (Process); RACT (Reactant or reagent)
 (nucleic acid-coupled colorimetric analyte detectors using
 self-assembling polydiacetylene liposomes)

IT 125110-42-1D, immobilized and protected 205266-20-2 370159-17-4
 RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
 (nucleic acid-coupled colorimetric analyte detectors using
 self-assembling polydiacetylene liposomes)

IT 228723-67-9P 368951-38-6P 368951-39-7P 369375-90-6P 369375-99-5P
 370159-18-5DP, immobilized and protected 370159-19-6P 370159-20-9P
 370159-21-0P 370159-22-1P 370649-88-0DP, immobilized and protected
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP
 (Preparation); RACT (Reactant or reagent)
 (nucleic acid-coupled colorimetric analyte detectors using
 self-assembling polydiacetylene liposomes)

IT 125110-43-2P 370649-89-1P 370649-90-4P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (nucleic acid-coupled colorimetric analyte detectors using
 self-assembling polydiacetylene liposomes)

IT 108-24-7, Acetic anhydride 124-09-4, Hexamethylenediamine, reactions
 141-43-5, Ethanolamine, reactions 302-01-2, Hydrazine, reactions
 681-84-5, Tetramethylorthosilicate 929-75-9, Tetraethylene glycol
 diamine 6066-82-6, N-Hydroxy succinimide 53053-08-0 75495-27-1
 136766-23-9 146064-10-0 369375-96-2
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (nucleic acid-coupled colorimetric analyte detectors using
 self-assembling polydiacetylene liposomes)

IT 136766-21-7P 137870-33-8P 146064-07-5P 146064-08-6P 146064-09-7P
 369375-84-8P 369375-86-0P 369375-88-2P 369375-94-0P 369375-97-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (nucleic acid-coupled colorimetric analyte detectors using
 self-assembling polydiacetylene liposomes)

IT 88373-04-0P 146064-05-3P 369375-89-3P 369375-98-4P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (nucleic acid-coupled colorimetric analyte detectors using
 self-assembling polydiacetylene liposomes)

IT 151014-05-0, 4: PN: US6306598 SEQID: 1 unclaimed DNA
 RL: PRP (Properties)
 (unclaimed nucleotide sequence; nucleic acid-coupled colorimetric
 analyte detectors using self-assembling polydiacetylene liposomes)

IT 34344-66-6
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)
 (nucleic acid-coupled colorimetric analyte detectors using
 self-assembling polydiacetylene liposomes)

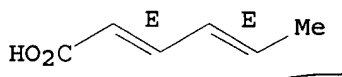
RN 34344-66-6 HCAPLUS
 CN 2,4-Hexadienoic acid, (2E,4E)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 110-44-1

CMF C6 H8 O2

Double bond geometry as shown.



RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 5 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:417272 HCAPLUS

DN 135:38875

TI Non-aromatic **chromophores** for use in polymer anti-reflective coatings

IN Shao, Xie; Cox, Robert; Deshpande, Shreeram V.; Flaim, Tony D.; Puligadda, Rama

PA Brewer Science, Inc., USA

SO PCT Int. Appl., 38 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001040865	A1	20010607	WO 2000-US25985	20000920
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1266264	A1	20021218	EP 2000-965290	20000920
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
JP 2003515793	T2	20030507	JP 2001-542270	20000920
US 2002045125	A1	20020418	US 2001-961751	20010924
US 2004067441	A1	20040408	US 2003-689482	20031020
PRAI US 1999-450966	A	19991130		
WO 2000-US25985	W	20000920		
US 2001-961751	B1	20010924		

AB An improved light attenuating compound for use in the production of microdevices

is provided. Broadly, the light attenuating compound is non-aromatic and can be directly incorporated (either phys. or chemical) into photolithog. compns. such as bottom anti-reflective coating process materials (BARC) and contact or via hole fill materials. The preferred non-aromatic compds. of the invention are conjugated aliphatic and alicyclic compds. which greatly enhance the plasma etch rate of the composition. Furthermore, the light attenuating compds. are useful for absorbing light at shorter wavelengths. In one embodiment, the inventive compds. can be polymerized so as to serve as both the polymer binder of the composition as well as the light absorbing constituent.

IC ICM G03C001-76

ICS G03C001-825; G03C001-815

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST arom **chromophore** polymer anti reflective coating

IT Optical materials

(antireflective; non-aromatic **chromophores** for use in polymer anti-reflective coatings)

IT Antireflective films

Chromophores

Optical instruments

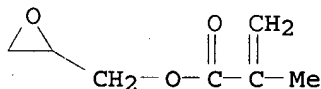
Photolithography

(non-aromatic **chromophores** for use in polymer anti-reflective

coatings)
 IT 343626-15-3P
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (non-aromatic **chromophores** for use in polymer anti-reflective coatings)
 IT 343626-15-3P
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (non-aromatic **chromophores** for use in polymer anti-reflective coatings)
 RN 343626-15-3 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, oxiranylmethyl ester, homopolymer, 2,4-hexadienoate (9CI) (CA INDEX NAME)
 CM 1
 CRN 22500-92-1
 CMF C6 H8 O2

Me-CH=CH-CH=CH-CO₂H

CM 2
 CRN 25067-05-4
 CMF (C7 H10 O3)x
 CCI PMS
 CM 3
 CRN 106-91-2
 CMF C7 H10 O3



RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 6 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2000:253007 HCAPLUS
 DN 132:286367
 TI Polymeric laser radiation-absorbing material for colorant donor element for thermal-transfer printing
 IN Burberry, Mitchell; Robello, Douglas R.; Spring, Richard T.; Pearce, Glenn T.
 PA Eastman Kodak Company, USA
 SO U.S., 13 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	-----	-----	-----

KATHLEEN FULLER EIC 1700 REMSON 4B28 571/272-2505

PI	US 6051532	A	20000418	US 1998-193342	19981116
	GB 2348291	A1	20000927	GB 1999-26479	19991110
	GB 2348291	B2	20021002		
	JP 2000141914	A2	20000523	JP 1999-323848	19991115
PRAI	US 1998-193342	A	19981116		

AB A colorant donor element for thermal-transfer printing comprises a support having thereon a colorant layer having a laser radiation-absorbing material associated therewith, wherein the laser radiation-absorbing material comprises a polymer containing within its repeat units a laser radiation-absorbing **chromophore** comprising an organic moiety having a plurality of conjugated double bonds and an optical absorption of from about 400 nm to about 1200 nm and capable of forming at least two covalent bonds to the polymer backbone.

IC ICM B41M005-035
ICS B41M005-38

INCL 503227000

CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST polymeric laser absorber colorant donor thermal transfer printing

IT Thermal-transfer printing materials

(polymeric laser radiation-absorbing materials for)

IT 4899-82-5 137995-23-4

RL: TEM (Technical or engineered material use); USES (Uses)

(cyan dye donor elements for thermal-transfer printing containing polymeric laser radiation-absorbing materials and)

IT 6761-94-0P 91944-65-9P 263762-22-7P 263762-24-9P 263762-27-2P
263762-34-1DP, chloride ion-exchanged, partially 263762-35-2DP, chloride ion-exchanged, partially

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and reaction in synthesis of polymeric laser radiation-absorbing material for colorant donor elements for thermal-transfer printing)

IT 375-22-4, Heptafluorobutyric acid 540-51-2, 2-Bromoethanol 693-13-0, Diisopropylcarbodiimide 822-06-0, 1,6-Diisocyanatohexane 1493-13-6, Trifluoromethanesulfonic acid 1640-39-7, 2,3,3-Trimethyl-3H-indole 2359-09-3, 5-tert-Butylisophthalic acid 41532-84-7, 1,1,2-Trimethyl-1H-benz[e]indole 63857-00-1 91944-64-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction in synthesis of polymeric laser radiation-absorbing material for colorant donor elements for thermal-transfer printing)

IT 263762-23-8P 263762-25-0P 263762-28-3P

263762-29-4P 263762-30-7DP, tosylate ion-exchange, partially

263762-31-8DP, tosylate ion-exchange, partially 263762-31-8P

263762-32-9DP, tosylate ion-exchange, partially

263762-33-0DP, tosylate ion-exchange, partially 263764-19-8P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(synthesis and use as laser radiation-absorbing material for colorant donor elements for thermal-transfer printing)

IT 63467-19-6

RL: TEM (Technical or engineered material use); USES (Uses)

(yellow dye donor elements for thermal-transfer printing containing polymeric laser radiation-absorbing materials and)

IT 263762-23-8P 263762-25-0P 263762-28-3P

263762-29-4P 263762-32-9DP, tosylate ion-exchange,

partially 263762-33-0DP, tosylate ion-exchange, partially

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(synthesis and use as laser radiation-absorbing material for colorant

donor elements for thermal-transfer printing)

RN 263762-23-8 HCAPLUS

CN 1H-Benz[e]indolium, 2-[2-[2-chloro-3-[[[1,3-dihydro-3-(2-hydroxyethyl)-1,1-dimethyl-2H-benz[e]indol-2-ylidene]ethylidene]-1-cyclohexen-1-yl]ethenyl]-3-(2-hydroxyethyl)-1,1-dimethyl-, salt with trifluoromethanesulfonic acid (1:1), polymer with 1,6-diisocyanatohexane (9CI) (CA INDEX NAME)

CM 1

CRN 822-06-0

CMF C8 H12 N2 O2

OCN-(CH₂)₆-NCO

CM 2

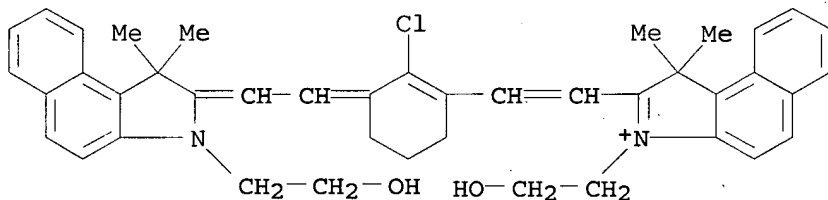
CRN 263762-22-7

CMF C42 H44 Cl N2 O2 . C F3 O3 S

CM 3

CRN 263762-21-6

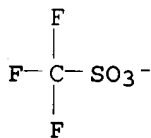
CMF C42 H44 Cl N2 O2



CM 4

CRN 37181-39-8

CMF C F3 O3 S



RN 263762-25-0 HCAPLUS

CN 1H-Benz[e]indolium, 2-[2-[2-chloro-3-[[[1,3-dihydro-3-(2-hydroxyethyl)-1,1-dimethyl-2H-benz[e]indol-2-ylidene]ethylidene]-1-cyclohexen-1-yl]ethenyl]-3-(2-hydroxyethyl)-1,1-dimethyl-, salt with heptafluorobutanoic acid (1:1), polymer with 1,6-diisocyanatohexane (9CI) (CA INDEX NAME)

CM 1

CRN 822-06-0

CMF C8 H12 N2 O2

OCN- (CH₂)₆-NCO

CM 2

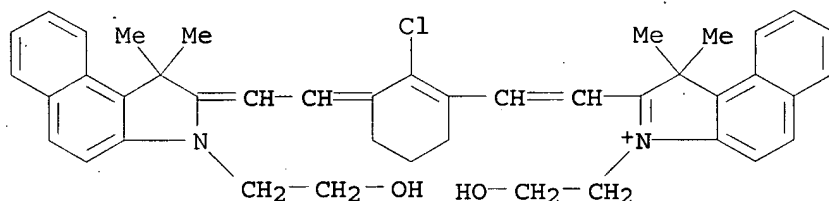
CRN 263762-24-9

CMF C42 H44 Cl N2 O2 . C4 F7 O2

CM 3

CRN 263762-21-6

CMF C42 H44 Cl N2 O2



CM 4

CRN 45048-62-2

CMF C4 F7 O2

F₃C- CF₂- CF₂- CO₂⁻

RN 263762-28-3 HCAPLUS

CN 3H-Indolium, 2-[2-[2-chloro-3-[[1,3-dihydro-1-(2-hydroxyethyl)-3,3-dimethyl-2H-indol-2-ylidene]ethylidene]-1-cyclohexen-1-yl]ethenyl]-1-(2-hydroxyethyl)-3,3-dimethyl-, salt with trifluoromethanesulfonic acid (1:1), polymer with 1,6-diisocyanatohexane (9CI) (CA INDEX NAME)

CM 1

CRN 822-06-0

CMF C8 H12 N2 O2

OCN- (CH₂)₆-NCO

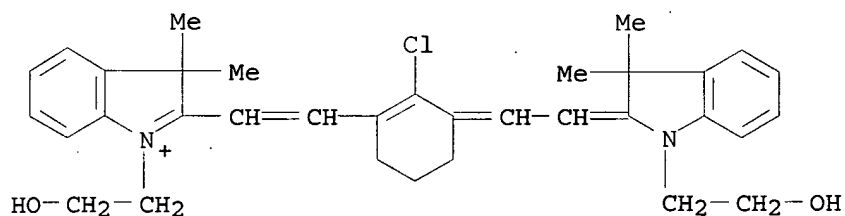
CM 2

CRN 263762-27-2

CMF C34 H40 Cl N2 O2 . C F3 O3 S

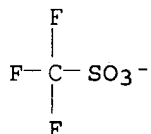
CM 3

CRN 263762-26-1
CMF C34 H40 Cl N2 O2



CM 4

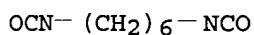
CRN 37181-39-8
CMF C F3 O3 S



RN 263762-29-4 HCAPLUS
CN 3H-Indolium, 2-[2-[2-chloro-3-[[1,3-dihydro-1-(2-hydroxyethyl)-3,3-dimethyl-2H-indol-2-ylidene]ethylidene]-1-cyclohexen-1-yl]ethenyl]-1-(2-hydroxyethyl)-3,3-dimethyl-, salt with trifluoromethanesulfonic acid (1:1), polymer with 1,6-diisocyanatohexane and 2,2'-oxybis[ethanol] (9CI)
(CA INDEX NAME)

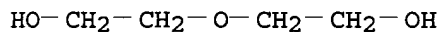
CM 1

CRN 822-06-0
CMF C8 H12 N2 O2



CM 2

CRN 111-46-6
CMF C4 H10 O3

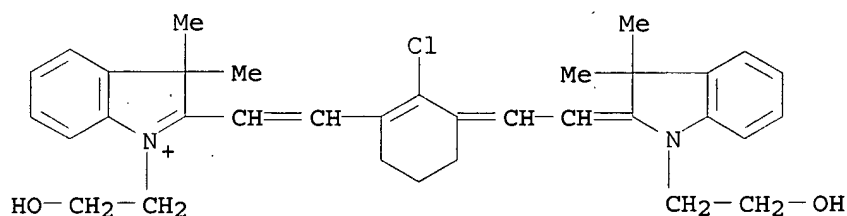


CM 3

CRN 263762-27-2
CMF C34 H40 Cl N2 O2 . C F3 O3 S

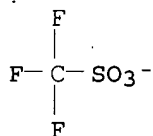
CM 4

CRN 263762-26-1
CMF C34 H40 Cl N2 O2



CM 5

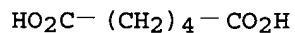
CRN 37181-39-8
CMF C F3 O3 S



RN 263762-32-9 HCAPLUS
CN 3H-Indolium, 2-[2-[2-chloro-3-[[1,3-dihydro-1-(2-hydroxyethyl)-3,3-dimethyl-2H-indol-2-ylidene]ethylidene]-1-cyclohexen-1-yl]ethenyl]-1-(2-hydroxyethyl)-3,3-dimethyl-, salt with trifluoromethanesulfonic acid (1:1), polymer with hexanedioic acid (9CI) (CA INDEX NAME)

CM 1

CRN 124-04-9
CMF C6 H10 O4

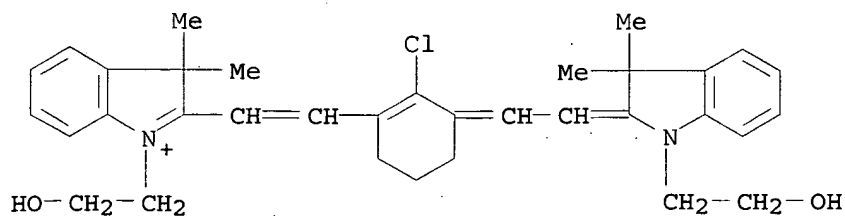


CM 2

CRN 263762-27-2
CMF C34 H40 Cl N2 O2 . C F3 O3 S

CM 3

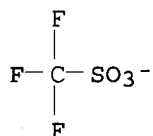
CRN 263762-26-1
CMF C34 H40 Cl N2 O2



CM 4

CRN 37181-39-8

CMF C F3 O3 S



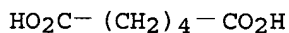
RN 263762-33-0 HCAPLUS

CN 1H-Benz[e]indolium, 2-[2-[2-chloro-3-[[1,3-dihydro-3-(2-hydroxyethyl)-1,1-dimethyl-2H-benz[e]indol-2-ylidene]ethylidene]-1-cyclohexen-1-yl]ethenyl]-3-(2-hydroxyethyl)-1,1-dimethyl-, salt with trifluoromethanesulfonic acid (1:1), polymer with hexanedioic acid (9CI) (CA INDEX NAME)

CM 1

CRN 124-04-9

CMF C6 H10 O4



CM 2

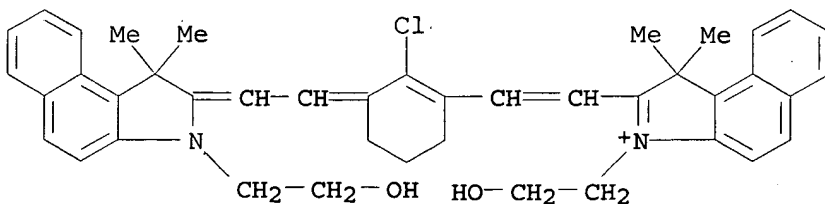
CRN 263762-22-7

CMF C42 H44 Cl N2 O2 . C F3 O3 S

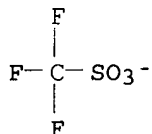
CM 3

CRN 263762-21-6

CMF C42 H44 Cl N2 O2



CM 4

CRN 37181-39-8
CMF C F3 O3 S

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 7 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2000:164695 HCAPLUS

DN 132:185494

TI **Chromophore**-polyoxyalkylene light imaging contrast agentsIN Snow, Robert Allen; Henrichs, Paul Mark; Sanderson, William Anthony;
Desai, Vinay Chandrakant; Delecki, Daniel Joseph; Hollister, Kenneth
Robert; Bacon, Edward Richard

PA Nycomed Imaging AS, Norway

SO Brit. UK Pat. Appl., 172 pp.

CODEN: BAXXDU

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 2337523	A1	19991124	GB 1998-9217	19980429
PRAI	GB 1998-9217		19980429		

OS MARPAT 132:185494

AB Physiol. tolerable water-soluble light imaging contrast agents have a mol. weight 500-500,000 and contain at least 2 **chromophores** having delocalized electron systems that are linked to at least 1 polymer surfactant moiety having a mol. weight 60-100,000. These contrast agents are useful in the treatment and diagnosis of disease, e.g. tumor, tissue. Thus, aluminum chlorophthalocyaninetetrasulfonyl chloride polymer with PEG- α , ω -diamine was prepared from PEG diamine and ClAlPc(SO₂Cl)₄ in pyridine solution. The biodistribution of the polymer in female immunodeficient mice was determined

IC ICM A61K049-00

ICS C08G065-32

CC 63-8 (Pharmaceuticals)

Section cross-reference(s): 8, 26, 35

ST **chromophore** polyoxyalkylene imaging contrast agent prepn;

phthalocyanine polyoxyalkylene imaging contrast agent prepn

IT Laser spectroscopy

(Doppler; **chromophore**-polyoxyalkylene light imaging contrast agents)IT **Chromophores**

Circulation

Microscopy

Skin

Surfactants

(chromophore-polyoxyalkylene light imaging contrast agents)

IT Polyoxyalkylenes, biological studies
 Radionuclides, biological studies
 Rare earth metals, biological studies
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (**chromophore**-polyoxyalkylene light imaging contrast agents)

IT Intestine, neoplasm
 (colon, carcinoma; **chromophore**-polyoxyalkylene light imaging contrast agents)

IT Imaging agents
 (contrast; **chromophore**-polyoxyalkylene light imaging contrast agents)

IT Microscopy
 (laser; **chromophore**-polyoxyalkylene light imaging contrast agents)

IT Drug delivery systems
 (liposomes; **chromophore**-polyoxyalkylene light imaging contrast agents)

IT Drug delivery systems
 (nanoparticles; **chromophore**-polyoxyalkylene light imaging contrast agents)

IT Tomography
 (optical coherence; **chromophore**-polyoxyalkylene light imaging contrast agents)

IT 215712-91-7P, NC100448 216451-83-1P 259261-68-2P
 259261-70-6P 259262-81-2P
 RL: BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
 (**chromophore**-polyoxyalkylene light imaging contrast agents)

IT 62-53-3, Benzenamine, reactions 1120-71-4, 1,3-Propanesultone
 15554-15-1, Aluminum phthalocyanine hydroxide 17070-70-1,
 3-Isocyanatopropyl dimethylchlorosilane 17159-79-4, Ethyl
 4-oxocyclohexanecarboxylate 19333-15-4, Silicon phthalocyanine
 dihydroxide 24991-53-5 27072-45-3, Fluorescein isothiocyanate
 41532-84-7, 1,1,2-Trimethyl-1H-benz[e]indole 61010-04-6 62796-29-6
 68665-24-7 68865-60-1, Poly(oxy-1,2-ethanediyl), α -(2-
 mercaptoethyl)- ω -(2-mercaptoethoxy)- 106392-12-5 110617-70-4
 169799-14-8, Cy-7 259261-67-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (**chromophore**-polyoxyalkylene light imaging contrast agents)

IT 63666-10-4P 70025-62-6P 74749-02-3P 259261-66-0P 259261-69-3P
 259262-76-5P 259262-79-8P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (**chromophore**-polyoxyalkylene light imaging contrast agents)

IT 574-93-6DP, Phthalocyanine, derivs.
 RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (**chromophore**-polyoxyalkylene light imaging contrast agents)

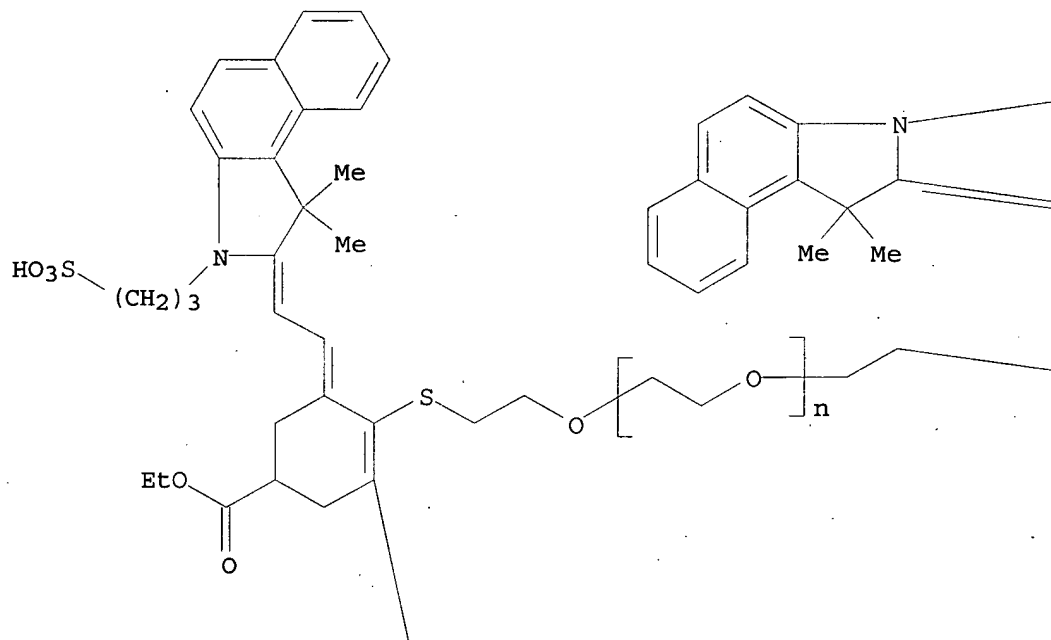
IT 523-42-2, Cyanine 2321-07-5 7440-19-9, Samarium, biological studies
 7440-26-8, Technetium, biological studies 7440-50-8, Copper, biological studies
 9004-95-9, Brij 58 25301-02-4, Tyloxapol
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (**chromophore**-polyoxyalkylene light imaging contrast agents)

IT 215712-91-7P, NC100448
 RL: BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
 (**chromophore**-polyoxyalkylene light imaging contrast agents)

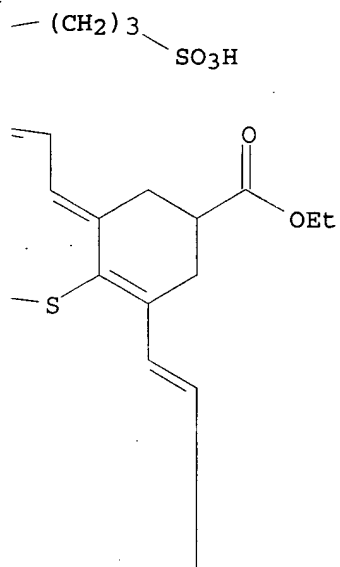
RN 215712-91-7 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -[2-[[6-[2-[1,3-dihydro-1,1-dimethyl-3-(3-sulfopropyl)-2H-benz[e]indol-2-ylidene]ethylidene]-2-[2-[1,1-dimethyl-3-(3-sulfopropyl)-1H-benz[e]indolium-2-yl]ethenyl]-4-(ethoxycarbonyl)-1-cyclohexen-1-yl]thio]ethyl]- ω -[2-[[6-[2-[1,3-dihydro-1,1-dimethyl-3-(3-sulfopropyl)-2H-benz[e]indol-2-ylidene]ethylidene]-2-[2-(1,1-dimethyl-3-(3-sulfopropyl)-1H-benz[e]indolium-2-yl)ethenyl]-4-(ethoxycarbonyl)-1-cyclohexen-1-yl]thio]ethoxy]-, bis(inner salt), disodium salt (9CI) (CA INDEX NAME)

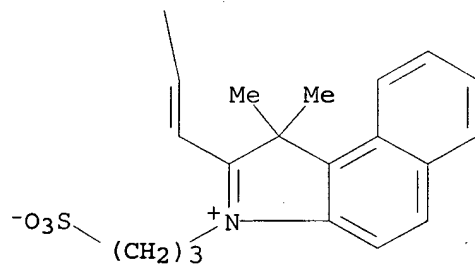
PAGE 1-A



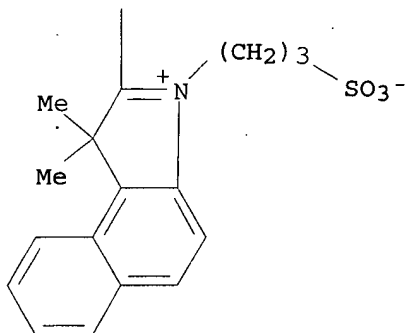
PAGE 1-B



PAGE 2-A



● 2 Na



L21 ANSWER 8 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1999:819529 HCAPLUS
 DN 132:60102
 TI Nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials
 IN Charych, Deborah H.; Jonas, Ulrich
 PA Regents of the University of California, USA
 SO PCT Int. Appl., 176 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 11

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9967423	A1	19991229	WO 1999-US14029	19990622
	W: AU, CA, JP				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	CA 2330937	AA	19991229	CA 1999-2330937	19990622
	AU 9947047	A1	20000110	AU 1999-47047	19990622
	AU 748644	B2	20020606		
	EP 1112377	A1	20010704	EP 1999-930522	19990622
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2004500006	T2	20040108	JP 2000-556063	19990622
PRAI	US 1998-90266P	P	19980622		
	US 1999-337973	A	19990621		
	WO 1999-US14029	W	19990622		

AB The present invention relates to methods and compns. for the direct detection of analytes and membrane conformational changes through the detection of color changes in biopolymeric materials. In particular, the present invention provides for the direct colorimetric detection of analytes using nucleic acid ligands at surfaces or polydiacetylene liposomes and related mol. layer systems. Synthetic schemes are provided for the preparation and immobilization of polydiacetylenic materials with various head groups.

IC C12Q001-68; G01N033-53; C12N011-00; C12M001-00; C07H021-04

CC 3-1 (Biochemical Genetics)

Section cross-reference(s): 9

ST nucleic acid coupled colorimetry analysis self assembly polydiacetylene

IT Toxins

RL: ANT (Analyte); ANST (Analytical study)

(Escherichia coli; nucleic acid-coupled colorimetric analyte detectors)

- using self-assembling polydiacetylenic materials)
- IT Phosphatidylethanolamines, uses
 - RL: MOA (Modifier or additive use); USES (Uses)
 - (N-biotinyl, dopant for biopolymeric materials; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)
- IT Amines, analysis
 - RL: ARU (Analytical role, unclassified); ANST (Analytical study)
 - (allyl, self-assembling monomers; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)
- IT Films
 - Liposomes
 - (biopolymeric; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)
- IT Toxins
 - RL: ANT (Analyte); ANST (Analytical study)
 - (cholera; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)
- IT Molecular recognition
 - (complexes, non-nucleic acid ligand; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)
- IT Surfactants
 - (dopant for biopolymeric materials; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)
- IT Cardiolipins
 - Ceramides
 - Cerebrosides
 - Lysophosphatidylcholines
 - Phosphatidic acids
 - Phosphatidylcholines, uses
 - Phosphatidylethanolamines, uses
 - Phosphatidylglycerols
 - Phosphatidylinositols
 - Phosphatidylserines
 - Polyoxyalkylenes, uses
 - Sphingomyelins
 - Steroids, uses
 - RL: MOA (Modifier or additive use); USES (Uses)
 - (dopant for biopolymeric materials; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)
- IT Functional groups
 - (hydrophilic groups, non-nucleic acid ligand; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)
- IT Functional groups
 - (hydrophobic, non-nucleic acid ligand; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)
- IT RNA
 - RL: ANT (Analyte); ANST (Analytical study)
 - (intron; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)
- IT Chelating agents
 - Chromophores**
 - Drugs
 - Electron acceptors
 - Electron donors
 - (non-nucleic acid ligand; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)
- IT Carbohydrates, analysis

Proteins, general, analysis

Sialic acids

Trisaccharides

RL: ARU (Analytical role, unclassified); ANST (Analytical study)

(non-nucleic acid ligand; nucleic acid-coupled colorimetric analyte

detectors using self-assembling polydiacetylenic materials)

IT Bacteria (Eubacteria)

Colorimeters

Colorimetry

Fungi

Hepatitis A virus

Hepatitis B virus

Human herpesvirus

Human herpesvirus 3

Human herpesvirus 4

Human immunodeficiency virus

Human immunodeficiency virus 1

Human poliovirus

Influenza virus

Neisseria gonorrhoeae

Nucleic acid hybridization

Parasite

Pathogen

Rabies virus

Retroviridae

Rhinovirus

Rubella virus

Self-assembly

Vaccinia virus

Variola virus

Vibrio vulnificus

Virus

(nucleic acid-coupled colorimetric analyte detectors using

self-assembling polydiacetylenic materials)

IT Agglutinins and Lectins

Antibodies

Antigens

DNA

Double stranded RNA

Enzymes, analysis

Hormones, animal, analysis

Nucleic acids

Receptors

Transcription factors

mRNA

rRNA

tRNA

RL: ANT (Analyte); ANST (Analytical study)

(nucleic acid-coupled colorimetric analyte detectors using

self-assembling polydiacetylenic materials)

IT Glycerophospholipids

RL: MOA (Modifier or additive use); USES (Uses)

(phosphatidylmethanols, dopant for biopolymeric materials; nucleic

acid-coupled colorimetric analyte detectors using self-assembling

polydiacetylenic materials)

IT Polydiacetylenes

Polydiacetylenes

RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST

(Analytical study); USES (Uses)

(polyamide-; nucleic acid-coupled colorimetric analyte detectors using

self-assembling polydiacetylenic materials)

IT Polyamides, analysis
Polyamides, analysis
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(polydiacetylene-; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT Polymers, analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(polythiophenes, self-assembling monomers; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT Alkenes, analysis
Alkynes
Imides
Siloxanes (nonpolymeric)
Urethanes
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(self-assembling monomers; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT DNA
RL: ANT (Analyte); ANST (Analytical study)
(single-stranded; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT Fluoropolymers, uses
Glass, uses
Mica-group minerals, uses
RL: DEV (Device component use); USES (Uses)
(solid support; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT Oligosaccharides, analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(tetrasaccharides, non-nucleic acid ligand; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT Ethers, analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(vinyl, self-assembling monomers; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT Detergents
(zwitterionic, dopant for biopolymeric materials; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT 66990-32-7P, 10,12-Pentacosadiynoic acid 92266-90-5P,
10,12-Pentacosadiyn-1-ol 120650-77-3P 144314-93-2P 155020-22-7P
162635-75-8P 211996-57-5P 211996-58-6P
RL: ARU (Analytical role, unclassified); DEV (Device component use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(chemical synthesis of biopolymeric materials; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT 929-75-9, Tetraethylene glycol diamine 136766-23-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(chemical synthesis of biopolymeric materials; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT 136766-21-7P 137870-33-8P 146064-05-3P 146064-06-4P 146064-07-5P
146064-08-6P 146064-09-7P 146064-10-0P 228723-67-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

(Reactant or reagent)

(chemical synthesis of biopolymeric materials; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT 57-88-5, Cholesterol, uses 83-44-3 123-78-4, D-erythro-Sphingosine
151-21-3, Sodium dodecyl sulfate, uses 460-12-8D, Diacetylene, derivs.
9036-19-5, Octoxynol 25322-68-3 29557-51-5, Dodecyl phosphocholine
34344-66-6, Polysorbic acid 58846-77-8, Decyl glucoside

RL: MOA (Modifier or additive use); USES (Uses)

(dopant for biopolymeric materials; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT 37758-47-7, Ganglioside GM1 59247-13-1, Ganglioside GT1b

RL: ARU (Analytical role, unclassified); ANST (Analytical study)

(non-nucleic acid ligand; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT 9001-84-7, Phospholipase A2. 9001-86-9, Phospholipase C 9001-87-0,
Phospholipase D 9002-61-3, Chorionic gonadotropin 9026-81-7, Nuclease
9031-50-9, Nucleotidyltransferase 9031-56-5, Ligase 37209-28-2,
Bungarotoxin 120178-12-3, Telomerase

RL: ANT (Analyte); ANST (Analytical study)

(nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT 62-53-3D, Aniline, compds. 79-06-1D, Acrylamide, compds. 79-41-4D,
Methacrylic acid, compds. 109-97-7D, Pyrrole, compds. 110-02-1D,
Thiophene, compds. 1121-34-2D, Malic anhydride, compds. 19295-34-2D,
Vinylpyridinium, compds.

RL: ARU (Analytical role, unclassified); ANST (Analytical study)

(self-assembling monomers; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT 138305-24-5, 5,7-Pentacosadiynoic acid 178560-65-1, 5,7-Docosadiynoic acid

RL: ARU (Analytical role, unclassified); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent)

(self-assembling monomers; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT 7440-21-3, Silicon, uses 7440-57-5, Gold, uses 7631-86-9, Silica, uses
9002-84-0, Teflon 9002-88-4, Polyethylene 9003-53-6, Polystyrene
9012-36-6, Sepharose 9014-76-0, Sephadex 25014-41-9D,
Polyacrylonitrile, compds.

RL: DEV (Device component use); USES (Uses)

(solid support; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT 34344-66-6, Polysorbic acid

RL: MOA (Modifier or additive use); USES (Uses)

(dopant for biopolymeric materials; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

RN 34344-66-6 HCAPLUS

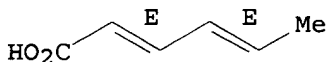
CN 2,4-Hexadienoic acid, (2E,4E)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 110-44-1

CMF C6 H8 O2

Double bond geometry as shown.



RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 9 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:597490 HCAPLUS
DN 131:214770
TI Polyadducts of nonlinear optically active copolymers for use in nonlinear optical media
IN Kanitz, Andreas; Hartmann, Horst; Fricke, Christian; Kuhne, Karsten
PA Siemens Aktiengesellschaft, Germany
SO Eur. Pat. Appl., 14 pp.
CODEN: EPXXDW
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 942019	A2	19990915	EP 1999-103891	19990301
	EP 942019	A3	19991006		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2000081645	A2	20000321	JP 1999-62257	19990309
	US 6174961	B1	20010116	US 1999-265444	19990309
	US 2001053818	A1	20011220	US 2000-727007	20001130
	US 6353059	B2	20020305		
PRAI	DE 1998-19810065	A	19980309		
	US 1999-265444	A3	19990309		

AB The title products, with low optical loss and hindrance of chromophore relaxation at temps. up to >100°, have specified structures and bear epoxy groups and nonlinear-optically active groups. Refluxing 0.1 mol 3-(heptylamino)phenol (prepared in 62% yield from 3-aminophenol and heptyl bromide) with 0.11 mol 2-bromoethanol in MeOH containing NaHCO₃ gave 54% 3-[heptyl(2-hydroxyethyl)amino]phenol, converted with isoamyl nitrite in HCl-saturated PrOH to N-heptyl-N'-hydroxy-N-(2-hydroxyethyl)quinone diiminium chloride (62%), reaction of which with 1-naphthylmalononitrile and Et₃N in DMF gave 28% 5-(dicyanomethylene)-9-[heptyl(2-hydroxyethyl)amino]benzo[a]phenoxazine, esterification of which with methacryloyl chloride gave 65% methacrylate ester (I). AIBN-initiated copolymn. of 1 33, glycidyl methacrylate 15, and cyclohexyl methacrylate 52 mol% gave 87% copolymer with glass temperature 133°.

IC ICM C08F246-00

ICS C08F220-36; C09K019-38

CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 28

ST copolymer nonlinear optical material; methacrylate copolymer nonlinear optical; benzophenoxazine deriv copolymer nonlinear optical; naphthylmalononitrile reaction quinone diiminium chloride; heptylhydroxyethylaminophenol reaction isoamyl nitrite

IT Nonlinear optical materials

(polyadducts of nonlinear optically active copolymers for use in nonlinear optical media)

IT 109-77-3, Malononitrile

RL: RCT (Reactant); RACT (Reactant or reagent)

(coupling with iodothiophene)

IT 3437-95-4, 2-Iodothiophene

RL: RCT (Reactant); RACT (Reactant or reagent)

(coupling with malononitrile)

IT 920-46-7, Methacryloyl chloride

RL: RCT (Reactant); RACT (Reactant or reagent)

(esterification with heterocyclic alcs.)

IT 243471-71-8P 243471-73-0P 243471-76-3P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (polyadducts of nonlinear optically active copolymers for use in nonlinear optical media)

IT 243471-62-7P 243471-65-0P 243471-79-6P **243471-80-9P**
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyadducts of nonlinear optically active copolymers for use in nonlinear optical media)

IT 243471-67-2P 243471-70-7P 243471-72-9P 243471-74-1P 243471-75-2P
 243471-77-4P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and methacryloylation)

IT 58494-81-8P, 3-(Butylamino)phenol 243471-66-1P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction with bromoethanol)

IT 243471-63-8P 243471-68-3P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction with isoamyl nitrite)

IT 243471-64-9P 243471-69-4P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction with naphthylmalononitrile)

IT 540-51-2, 2-Bromoethanol
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction with (butylamino)phenol)

IT 591-27-5, 3-Aminophenol
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction with alkyl bromides)

IT 109-65-9, 1-Bromobutane 629-04-9, 1-Bromoheptane
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction with aminophenol)

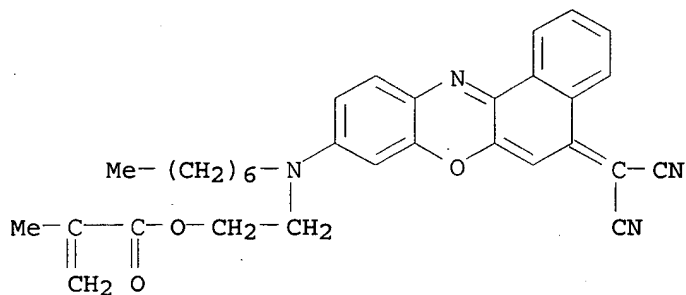
IT 603-72-5, 1,8-Naphthosultam 5518-09-2, 1-Naphthylmalononitrile
 41279-57-6, N-Cyano-1-naphthylamine 155653-32-0 243471-78-5
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction with quinone diiminium derivs.)

IT **243471-80-9P**
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyadducts of nonlinear optically active copolymers for use in nonlinear optical media)

RN 243471-80-9 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, cyclohexyl ester, polymer with
 2-[[5-(dicyanomethylene)-5H-benzo[a]phenoxazin-9-yl]heptylamino]ethyl
 2-methyl-2-propenoate and oxiranylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

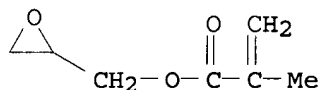
CM 1

CRN 243471-65-0
 CMF C32 H32 N4 O3



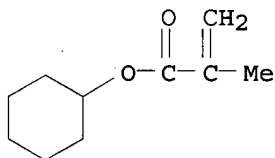
CM 2

CRN 106-91-2
CMF C7 H10 O3



CM 3

CRN 101-43-9
CMF C10 H16 O2



L21 ANSWER 10 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1998:723794 HCAPLUS

DN 130:1845

TI Physiologically tolerable **chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof

IN Snow, Robert Allen; Henrichs, Paul Mark; Delecki, Daniel Joseph; Sanderson, William Anthony; Desai, Vinay Chandrakant; Bacon, Edward; Hollister, Kenneth Robert; Hohenschuh, Eric Paul

PA Nycomed Imaging AS, Norway; Cockbain, Julian Roderick Michaelson

SO PCT Int. Appl., 174 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9848838	A1	19981105	WO 1998-GB1244	19980428
	W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK,				

KATHLEEN FULLER EIC 1700 REMSON 4B28 571/272-2505

EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP,
 KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ,
 PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US
 RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,
 FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,
 CM, GA, GN, ML, MR, NE, SN, TD, TG
 WO 9848845 A1 19981105 WO 1998-GB1245 19980428
 W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK,
 EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP,
 KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ,
 PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US
 RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,
 FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,
 CM, GA, GN, ML, MR, NE, SN, TD, TG
 AU 9872212 A1 19981124 AU 1998-72212 19980428
 AU 9872213 A1 19981124 AU 1998-72213 19980428
 EP 979103 A1 20000216 EP 1998-919335 19980428
 EP 979103 B1 20040102
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, FI
 JP 2002504894 T2 20020212 JP 1998-546749 19980428
 AT 257014 E 20040115 AT 1998-919335 19980428
 ES 2213899 T3 20040901 ES 1998-919335 19980428
 US 6350431 B1 20020226 US 1999-429347 19991028
 PRAI US 1997-848586 A2 19970429
 GB 1997-27124 A 19971222
 US 1998-35285 A2 19980305
 WO 1998-GB1244 W 19980428
 WO 1998-GB1245 W 19980428
 AB Physiol. tolerable light imaging contrast agent compds. are provided
 having a mol. weight in the range 500-500,000 and containing at least two
chromophores having delocalized electron systems as well as at
 least one polyalkylene oxide (PAO) moiety having a mol. weight in the range
 60-100,000.
 IC A61K041-00; A61K049-00
 CC 8-9 (Radiation Biochemistry)
 Section cross-reference(s): 63
 ST **chromophore** polyalkylene oxide conjugate imaging agent; light
 imaging contrast agent prepn
 IT Confocal laser scanning microscopy
 (and visual observation; **chromophore**-polyalkylene oxide
 conjugate light imaging contrast agents, and preparation thereof)
 IT Polyoxyalkylenes, biological studies
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (**chromophore** conjugates; **chromophore**-polyalkylene
 oxide conjugate light imaging contrast agents, and preparation thereof)
 IT Antitumor agents
 Drug delivery systems
 Light
 Neoplasm
 Particle size
 Therapy
 (**chromophore**-polyalkylene oxide conjugate light imaging
 contrast agents, and preparation thereof)
 IT Intestine, neoplasm
 (colon, carcinoma, HT-29; **chromophore**-polyalkylene oxide
 conjugate light imaging contrast agents, and preparation thereof)
 IT Fluorescence microscopy
 (confocal; **chromophore**-polyalkylene oxide conjugate light
 imaging contrast agents, and preparation thereof)

- IT Imaging agents
(contrast; **chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)
- IT Polyoxyalkylenes, biological studies
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(diamine derivs; **chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)
- IT Drug delivery systems
(emulsions, sudan III; **chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)
- IT Circulation
(fluorescence imaging; **chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)
- IT Drug delivery systems
(liposomes, indocyanine green; **chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)
- IT Drug delivery systems
(nanoparticles, fluorescein; **chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)
- IT Microscopy
(photoacoustic, acousto-optical, diffusive wave, time-resolved imaging, endoscopic, multiphoton excitation; **chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)
- IT **Chromophores**
(polyalkylene oxide conjugates; **chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)
- IT Rare earth complexes
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polyalkylene oxide conjugates; **chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)
- IT Lymph node
(sentinel; **chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)
- IT Drug targeting
(targeting vectors; **chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)
- IT 603-35-0, Triphenyl phosphine, reactions 7719-09-7, Thionyl chloride 26628-22-8, Sodium azide
RL: RCT (Reactant); RACT (Reactant or reagent)
(**chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)
- IT 107-15-3DP, Ethylenediamine, reaction product with aluminum chlorophthalocyanine tetrasulfonate 24991-53-5DP, reaction products with aluminumchlorophthalocyaninetetrasulfonyl chloride 25322-68-3DP, diamine derivs 62796-29-6DP, reaction products polyoxyethylene-polyoxypropylene block amino derivs. 68665-24-7DP, polymers with PEG diamine 104469-80-9DP, reaction product with PEG diamine 106392-12-5DP, amino derivs., reaction product with Rhodamine B sulfonyl chloride 110617-70-4DP, reaction product with zinc phthalocyanine derivative 114251-83-1DP, reaction product with surfactant amino groups 169799-14-8DP, Cy-7, reaction product with Surfactant T 908 amino derivs. 215712-90-6P **215712-91-7P**
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)
- IT 574-93-6D, Phthalocyanine, polyalkylene oxide conjugates 581-64-6D, Cyanine, N-derivs., polyalkylene oxide conjugates 2321-07-5D, Fluorescein, polyalkylene oxide conjugates 7440-19-9D, Samarium,

radionuclides, chelates, polyalkylene oxide conjugates, biological studies 7440-26-8D, Technetium, radionuclides, chelates, polyalkylene oxide conjugates, biological studies 7440-50-8D, Copper, radionuclides, chelates, polyalkylene oxide conjugates, biological studies 9004-95-9, Brij 58 25301-02-4, Tyloxapol 106392-12-5, F 68 106392-12-5D, Polyethylene oxide-polypropylene oxide block copolymer, **chromophore** conjugates 110617-70-4D, Tetronic, **chromophore** conjugates 177910-36-0, P79

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)

IT 3599-32-4, Indocyanine green

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(liposomes; **chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)

IT 63666-10-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction; **chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)

IT 62-53-3, Aniline, reactions 1120-71-4, 1,3-Propane sultone 17159-79-4, Ethyl 4-oxocyclohexanecarboxylate 24991-53-5 27072-45-3, Fluorescein isothiocyanate 41532-84-7, 1,1,2-Trimethyl-1H-benz[e]indole 62796-29-6 68665-24-7 68865-60-1 110617-70-4 114251-83-1 169799-14-8, Cy-7 215712-92-8

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction; **chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)

IT 85-86-9, Sudan III

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(stable emulsion; **chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)

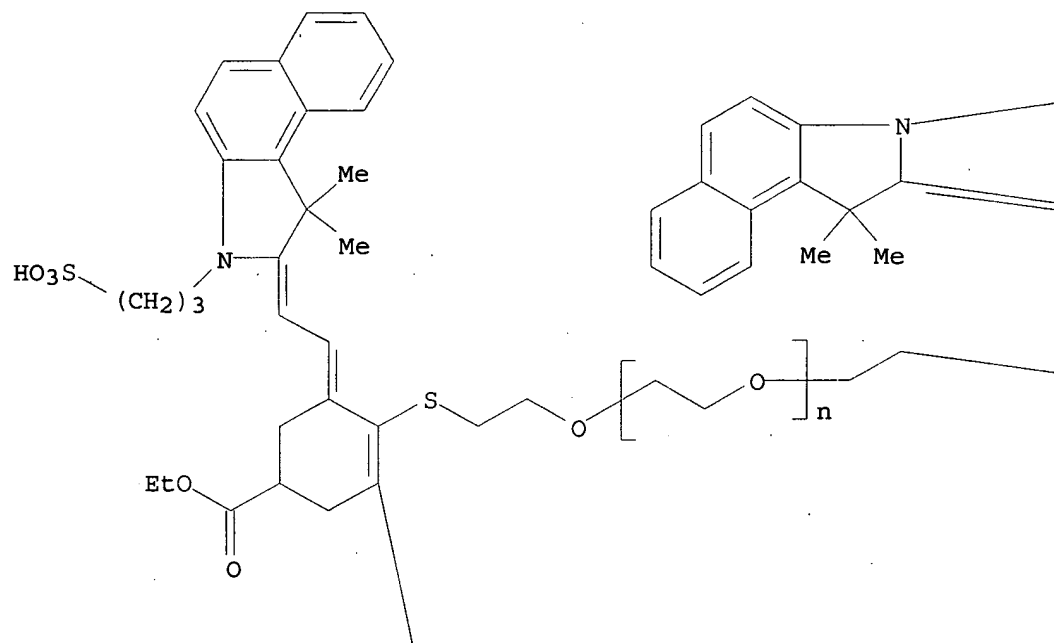
IT 215712-91-7P

RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)

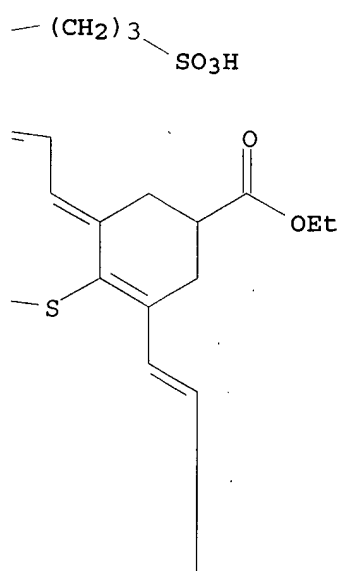
RN 215712-91-7 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -[2-[[6-[2-[1,3-dihydro-1,1-dimethyl-3-(3-sulfopropyl)-2H-benz[e]indol-2-ylidene]ethylidene]-2-[2-[1,1-dimethyl-3-(3-sulfopropyl)-1H-benz[e]indolium-2-yl]ethenyl]-4-(ethoxycarbonyl)-1-cyclohexen-1-yl]thio]ethyl]- ω -[2-[[6-[2-[1,3-dihydro-1,1-dimethyl-3-(3-sulfopropyl)-2H-benz[e]indol-2-ylidene]ethylidene]-2-[2-(1,1-dimethyl-3-(3-sulfopropyl)-1H-benz[e]indolium-2-yl]ethenyl]-4-(ethoxycarbonyl)-1-cyclohexen-1-yl]thio]ethoxy]-, bis(inner salt), disodium salt (9CI) (CA INDEX NAME)

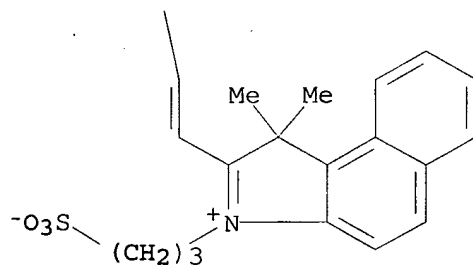
PAGE 1-A



PAGE 1-B

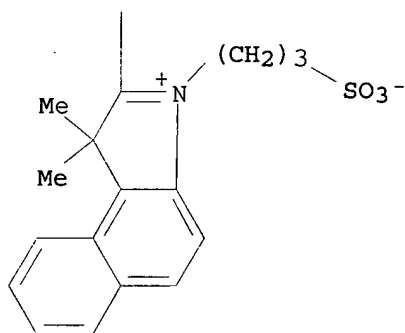


PAGE 2-A



● 2 Na

PAGE 2-B



RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

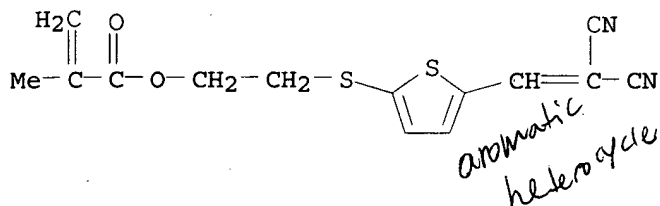
L21 ANSWER 11 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:536795 HCAPLUS
DN 129:231331
TI Synthetic approach for the incorporation of second-order nonlinear optical **chromophores** containing heteroatoms into methacrylate copolymers
AU Samyn, C.; Heylen, M.; Claes, G.; Boutton, c.; Van Beylen, M.; Persoons, A.
CS Lab. Macromolecular Phys Organic Chem., Univ. Leuven, Louvain, B-3001, Belg.
SO European Polymer Journal (1998), 34(8), 1069-1072
CODEN: EUPJAG; ISSN: 0014-3057
PB Elsevier Science Ltd.
DT Journal
LA English
AB Nonlinear optical **chromophores** with thiophene groups incorporated in the conjugated system were synthesized. Their second-order nonlinear response was evaluated by elec.-field-induced second-harmonic generation (EFISHG) measurements. Off-resonant values $\mu\beta_0$ as high as 589.10-48 esu were obtained. Some of the $D\pi A$ (donor-accepted conjugated) systems were incorporated as side chain into

- MMA-**chromophore** functionalized methacrylate copolymers in various concns. The copolymers show a decrease in Tg with increasing **chromophore** content.
- CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 35, 73
- ST second order NLO **chromophore** methacrylate copolymer; nonlinear optical **chromophore** methacrylate copolymer
- IT Glass transition temperature
(of methacrylate copolymers containing second-order nonlinear optical **chromophores** in relation to **chromophore** content)
- IT Nonlinear optical properties
Second-harmonic generation
(preparation and characterization of methacrylate copolymers containing second-order nonlinear optical **chromophores**)
- IT 89639-68-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(model **chromophore** intermediate; preparation and characterization of methacrylate copolymers containing second-order nonlinear optical **chromophores**)
- IT 75-08-1, Ethanethiol 104-03-0, 4-Nitrophenylacetic acid 105-34-0, Methyl cyanoacetate 109-77-3, Malononitrile 4521-33-9, 5-Nitro-2-thiophenecarboxaldehyde 4701-17-1, 5-Bromo-2-thiophenecarboxaldehyde 34904-04-6 212687-84-8 212687-86-0 212687-88-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(model **chromophore** starting material; preparation and characterization of methacrylate copolymers containing second-order nonlinear optical **chromophores**)
- IT 139262-55-8P 212687-80-4P 212687-81-5P 212687-82-6P 212687-83-7P 212687-85-9P 212687-87-1P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(model **chromophore**; preparation and characterization of methacrylate copolymers containing second-order nonlinear optical **chromophores**)
- IT 212687-89-3P 212687-90-6P 212687-91-7P 212688-00-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(monomer intermediate; preparation and characterization of methacrylate copolymers containing second-order nonlinear optical **chromophores**)
- IT 212687-92-8P 212687-93-9P 212687-94-0P 212687-95-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(monomer; preparation and characterization of methacrylate copolymers containing second-order nonlinear optical **chromophores**)
- IT 212687-96-2P 212687-97-3P 212687-98-4P 212687-99-5P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and characterization of methacrylate copolymers containing second-order nonlinear optical **chromophores**)
- IT 212687-96-2P 212687-97-3P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and characterization of methacrylate copolymers containing second-order nonlinear optical **chromophores**)
- RN 212687-96-2 HCAPLUS
- CN 2-Propenoic acid, 2-methyl-, 2-[[5-(2,2-dicyanoethenyl)-2-thienyl]thio]ethyl ester, polymer with methyl 2-methyl-2-propenoate (9CI)
(CA INDEX NAME)

CM 1

CRN 212687-92-8

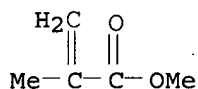
CMF C14 H12 N2 O2 S2



CM 2

CRN 80-62-6

CMF C5 H8 O2



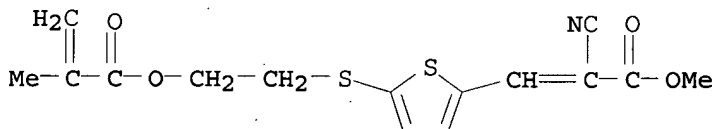
RN 212687-97-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with methyl
2-cyano-3-[5-[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]thio]-2-thienyl]-2-
propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 212687-93-9

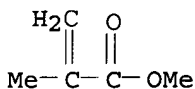
CMF C15 H15 N O4 S2



CM 2

CRN 80-62-6

CMF C5 H8 O2



RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 12 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:208921 HCAPLUS

KATHLEEN FULLER EIC 1700 REMSON 4B28 571/272-2505

DN 128:193162
 TI Synthesis and Electrooptic Properties of a New **Chromophore**
 Dispersed or Grafted in a Carbazolyl Methacrylate Matrix
 AU Maertens, C.; Dubois, P.; Jerome, R.; Blanche, P. -A.; Lemaire, Ph. C.
 CS Center for Education and Research on Macromolecules (C.E.R.M.), Universite
 de Liege, Liege, B 4000, Belg.
 SO Chemistry of Materials (1998), 10(4), 1010-1016
 CODEN: CMATEX; ISSN: 0897-4756
 PB American Chemical Society
 DT Journal
 LA English
 AB A copolymer of [11-(N-carbazolyl)undecyl methacrylate] and Et
 (E)-2-cyano-3[5-(5-(4-methacryloyloxy)piperidino-2-thienylcarbonyl)-2-
 thienyl]-2-propenoate was prepared. The photocond. and the electrooptic
 properties of a hot-pressed thin film of this copolymer have been measured
 and compared with the properties of the dispersion of Et
 (E)-2-cyano-3[5-(5-piperidino-2-thienylcarbonyl)-2-thienyl]-2-propenoate
 within a poly[11-(N-carbazolyl)undecyl methacrylate] matrix. The
 electrooptic coefficient has been measured by both interferometric and
 polarimetric techniques. The interferometric technique was not
 appropriated because the strong elec. field applied to the electrodes
 changes the film thickness of these low Tg materials. A value of up to 5
 pm/V for the figure of merit $n_3(r_{13} - r_{33})$ has been reported for the
 dispersed material, which is 10 times higher than the corresponding
 grafted material, and a linear relationship between the poling intensity
 and the electrooptic coefficient has been observed for the two materials.
 CC 37-3 (Plastics Manufacture and Processing)
 Section cross-reference(s): 73, 76
 ST methacrylate **chromophore** copolymer synthesis electrooptic;
 carbazolyl methacrylate copolymer photocond glass temp
 IT Dielectric polarization
 Electric field
 Electrooptical effect
 Glass transition temperature
 Nonlinear optical properties
 Polymerization
 (synthesis, electrooptic properties, and photocond. of
chromophore-dispersed- or grafted-carbazolyl methacrylate
 matrix)
 IT 128629-05-0
 RL: PRP (Properties)
 (in synthesis of electrooptic **chromophore**)
 IT 203588-12-9P 203588-13-0P 203588-14-1P
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP
 (Preparation); RACT (Reactant or reagent)
 (in synthesis of electrooptic **chromophore**)
 IT 203588-15-2P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (in synthesis of electrooptic **chromophore**)
 IT 96-43-5, 2-Chlorothiophene 105-56-6 110-89-4, Piperidine, reactions
 4111-54-0, Lithium diisopropylamide 5271-67-0, 2-Thiophenecarbonyl
 chloride 5382-16-1, 4-Hydroxypiperidine
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (in synthesis of electrooptic **chromophore**)
 IT 203588-07-2P 203588-08-3P 203588-09-4P 203588-10-7P 203588-11-8P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (in synthesis of electrooptic **chromophore**)
 IT 203588-15-2P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

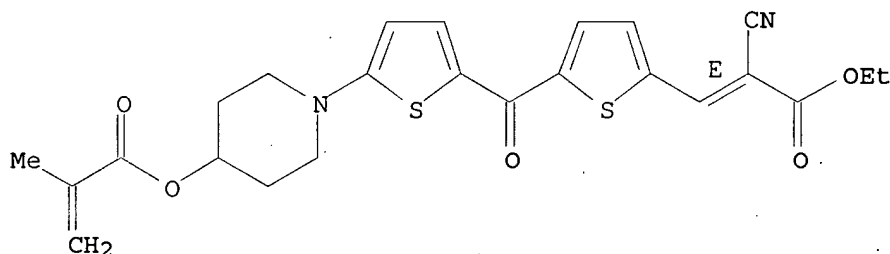
(in synthesis of electrooptic chromophore)

RN 203588-15-2 HCAPLUS
 CN 2-Propenoic acid, 2-cyano-3-[5-[[5-[4-[(2-methyl-1-oxo-2-propenyl)oxy]-1-piperidiny]]-2-thienyl]carbonyl]-2-thienyl]-, ethyl ester, (E)-, polymer with 11-(9H-carbazol-9-yl)undecyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

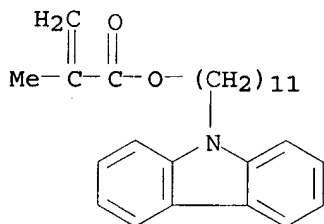
CRN 203588-14-1
 CMF C24 H24 N2 O5 S2

Double bond geometry as shown.



CM 2

CRN 128629-04-9
 CMF C27 H35 N O2



RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 13 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1997:721317 HCAPLUS
 DN 127:346749
 TI Synthesis and Photophysical Characterization of Group Transfer Polymers with Pendent Aryl Chromophores
 AU Fox, Marye Anne; Thompson, Heike W.
 CS Department of Chemistry, University of Texas, Austin, TX, 78712, USA
 SO Macromolecules (1997), 30(24), 7391-7396
 CODEN: MAMOBX; ISSN: 0024-9297
 PB American Chemical Society
 DT Journal
 LA English
 AB Naphthalene- and pyrene-labeled polymers (poly-3-5) prepared by group transfer polymerization of Me 2-(2-naphthyl)acrylate, Me 2-(1-pyrenyl)acrylate, and Et 5-(2-naphthyl)pentadienoate and Et 5-(2-naphthyl)hexadienoate,

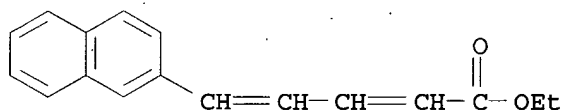
resp., were studied as probes for backbone conformational rigidity. Excimer formation was observed in the steady-state fluorescence spectra, and the observation of biexponential decay of time-resolved fluorescence indicates two distinct environments for excimer formation. These, in turn, point to substantial conformational flexibility in the polymer backbone.

- CC 35-7 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 36
- ST conformational flexibility polyacrylate pendent naphthyl pyrenyl; excimer formation polyacrylate pendent aryl **chromophore**; fluorescence polyhexadienoate polypentadienoate pendent aryl **chromophore**; group transfer polymers aryl acrylate pentenoate
- IT Polymer chains
(conformation; preparation and photophys. characterization of conformational flexibility of group transfer polymers with pendent aryl **chromophores**)
- IT Polymer chains
(flexibility; preparation and photophys. characterization of conformational flexibility of group transfer polymers with pendent aryl **chromophores**)
- IT Polymerization
(group-transfer; preparation and photophys. characterization of conformational flexibility of group transfer polymers with pendent aryl **chromophores**)
- IT Excimer
Fluorescence
(preparation and photophys. characterization of conformational flexibility of group transfer polymers with pendent aryl **chromophores**)
- IT 198197-16-9P, Ethyl 5-(2-Naphthyl)-2,4-hexadienoate 198197-21-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(attempted polymerization; preparation and photophys. characterization of conformational flexibility of group transfer polymers with pendent aryl **chromophores**)
- IT 66-99-9, 2-Naphthaldehyde 2876-71-3, Methyl 2-naphthylacetate 30525-89-4, Paraformaldehyde 198197-18-1 198197-20-5, 6-tert-Butyl-2-naphthaldehyde
RL: RCT (Reactant); RACT (Reactant or reagent)
(monomer synthesis; preparation and photophys. characterization of conformational flexibility of group transfer polymers with pendent aryl **chromophores**)
- IT 198197-10-3P, Methyl 2-(2-Naphthyl)propenoate 198197-12-5P, Methyl 2-(1-Pyrenyl)propenoate 198197-14-7P, Ethyl 5-(2-Naphthyl)-2,4-pentadienoate 198197-19-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(monomer; preparation and photophys. characterization of conformational flexibility of group transfer polymers with pendent aryl **chromophores**)
- IT 429-41-4, Tetrabutylammonium fluoride 31469-15-5, 1-Methoxy-1-(trimethylsiloxy)-2-methyl-1-propene
RL: CAT (Catalyst use); USES (Uses)
(preparation and photophys. characterization of conformational flexibility of group transfer polymers with pendent aryl **chromophores**)
- IT 198197-11-4P, Methyl 2-(2-naphthyl)acrylate homopolymer 198197-13-6P, Methyl 2-(1-pyrenyl)acrylate homopolymer 198197-15-8P 198197-17-0P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and photophys. characterization of conformational flexibility of group transfer polymers with pendent aryl **chromophores**)

IT 93-08-3 75204-01-2, 6-tert-Butyl-2-acetonaphthone
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation and photophys. characterization of conformational flexibility
 of group transfer polymers with pendent aryl **chromophores**)
 IT 198197-15-8P 198197-17-0P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and photophys. characterization of conformational flexibility
 of group transfer polymers with pendent aryl **chromophores**)
 RN 198197-15-8 HCAPLUS
 CN 2,4-Pentadienoic acid, 5-(2-naphthalenyl)-, ethyl ester, homopolymer (9CI)
 (CA INDEX NAME)

CM 1

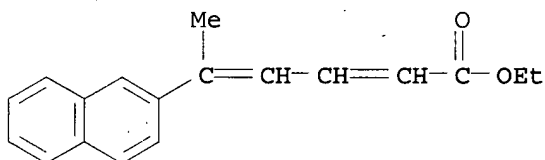
CRN 198197-14-7
 CMF C17 H16 O2



RN 198197-17-0 HCAPLUS
 CN 2,4-Hexadienoic acid, 5-(2-naphthalenyl)-, ethyl ester, homopolymer (9CI)
 (CA INDEX NAME)

CM 1

CRN 198197-16-9
 CMF C18 H18 O2



L21 ANSWER 14 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1997:682782 HCAPLUS
 DN 127:336527
 TI Immobilization of Retinoic Acid by Cationic Polyelectrolytes
 AU Thuenemann, Andreas
 CS Max Planck Institut fuer Kolloid- Grenzflaechenforschung, Teltow-Seehof,
 D-14513, Germany
 SO Langmuir (1997), 13(23), 6040-6046
 CODEN: LANGD5; ISSN: 0743-7463
 PB American Chemical Society
 DT Journal
 LA English
 AB Retinoic acid was immobilized by precipitating its complexes with cationic
 polyelectrolytes from aqueous solution Polyelectrolytes with different
 architectures, such as poly(ionene-6,3 bromide),
 poly(dimethyldiallylammonium chloride), and poly(N-methyl-4-
 vinylpyridinium chloride), form self-assembling complexes containing retinoic

acid (70% (weight/weight)). All these complexes are thermodynamically stable and can be processed into mesomorphously ordered films with interesting phys. properties. In contrast to the brittle crystalline retinoic acid the complexes with polyelectrolytes are highly deformable viscoelastic materials. All materials show lamellar mesophase structures; their T_g value strongly depends on the polyelectrolyte. It is suggested that these materials have great potential as pharmaceutical agents as well as models for the investigation and the mimicking of **chromophores** in visual pigments and photosynthetic bacteria. The properties of the complexes are examined by X-ray diffraction, DSC, polarization optical microscopy, UV-vis spectroscopy, and stress-strain measurements.

CC 63-5 (Pharmaceuticals)

Section cross-reference(s): 10

ST retinoic acid immobilization cationic polyelectrolyte

IT Polyelectrolytes

(cationic; immobilization of retinoic acid by cationic polyelectrolytes)

IT Immobilization, biochemical

(immobilization of retinoic acid by cationic polyelectrolytes)

IT 197888-33-8P 197888-34-9P 197888-35-0P

RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(immobilization of retinoic acid by cationic polyelectrolytes)

IT 26062-79-3, Poly(diallyldimethylammonium chloride) 28728-55-4

28826-65-5, Poly(N-methyl-4-vinylpyridinium chloride)

RL: RCT (Reactant); RACT (Reactant or reagent)

(immobilization of retinoic acid by cationic polyelectrolytes)

IT 302-79-4, Retinoic acid

RL: RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)

(immobilization of retinoic acid by cationic polyelectrolytes)

IT 197888-33-8P 197888-34-9P 197888-35-0P

RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(immobilization of retinoic acid by cationic polyelectrolytes)

RN 197888-33-8 HCAPLUS

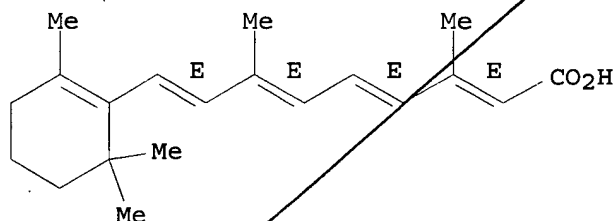
CN 2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer, compd. with retinoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 302-79-4

CMF C20 H28 O2

Double bond geometry as shown.



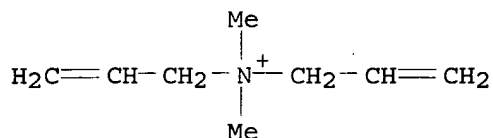
CM 2

CRN 26062-79-3

CMF (C8 H16 N . Cl)x
CCI PMS

CM 3

CRN 7398-69-8
CMF C8 H16 N . Cl

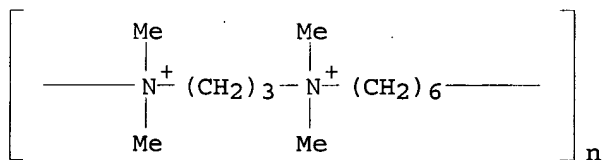


● Cl⁻

RN 197888-34-9 HCAPLUS
CN Retinoic acid, compd. with poly[(dimethyliminio)-1,3-propanediyl(dimethyliminio)-1,6-hexanediyl dibromide] (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 28728-55-4
CMF (C13 H30 N2)n . 2 Br
CCI PMS

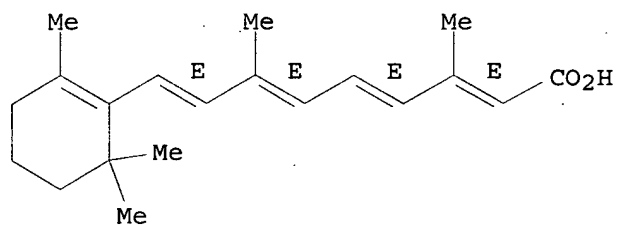


● 2 Br⁻

CM 2

CRN 302-79-4
CMF C20 H28 O2

Double bond geometry as shown.

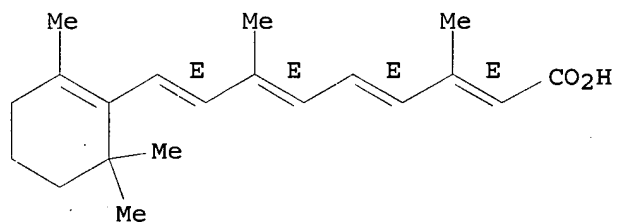


RN 197888-35-0 HCAPLUS
 CN Retinoic acid, compd. with 4-ethenyl-1-methylpyridinium chloride
 homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 302-79-4
 CMF C20 H28 O2

Double bond geometry as shown.

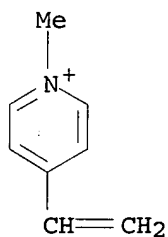


CM 2

CRN 28826-65-5
 CMF (C8 H10 N . Cl)x
 CCI PMS

CM. 3

CRN 45708-78-9
 CMF C8 H10 N . Cl



● Cl⁻

RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L21 ANSWER 15 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1996:84394 HCAPLUS
DN 124:118894
TI Nonlinear optical polymers. Second harmonic generation in corona-poled thin films
AU Samyn, Celest; Claes, Goedele; Van Beylen, Marcel; De Wachter, Anneleen; Persoons, Andre
CS Laboratory Macromolecular and Physical Organic Chemistry, University Leuven, Heverlee, B-3001, Belg.
SO Macromolecular Symposia (1996), 102(9th Rolduc Polymer Meeting, Smart Polymer Materials & Products, 1995), 145-58
CODEN: MSYMEC; ISSN: 1022-1360
PB Huethig & Wepf
DT Journal
LA English
AB The synthesis and second harmonic coeffs., $d_{3,1}$ and $d_{3,3}$ as well as the related susceptibilities $\chi_z(z_{2z})$ of five series of NLO-dye methacrylate-Me methacrylate copolymers were investigated. The NLO-**chromophores** bound covalently to the polymer backbone were 5-(2,2-dicyanovinyl)- or 4-(2-cyano-2-methoxycarbonyl)vinyl-1-piperidino-2-thiophene (P1 and P2), 4-nitro-4'-alkoxystilbene (P3), 4-nitro-3'-methoxy-4'-alkoxystilbene (P4) and 4-nitro-4'-alkoxy- α -cyanostilbene (P5). The second order nonlinear optical properties of corona-poled aligned thin polymer films, using a needle electrode in order to induce noncentrosymmetry, were evaluated. Nonlinear susceptibilities, $\chi_z(z_{2z})$, of the films were derived from the anal. of full-angle Maker fringe patterns at 1064 nm, $\chi_z(z_{2z})$ values as high as 1.98×10^{-7} esu for P2 copolymers and of 1.19×10^{-7} esu for P3 copolymers could be achieved.
CC 37-5 (Plastics Manufacture and Processing)
Section cross-reference(s): 73
ST optical nonlinear methacrylate copolymer; second harmonic generation methacrylate copolymer; stilbene deriv methacrylate copolymer optical nonlinear; thiophene deriv methacrylate copolymer optical nonlinear
IT Electric corona
Glass temperature and transition
Optical nonlinear property
(preparation and properties and second harmonic generation in corona-poled methacrylate copolymer films)
IT 920-46-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(in preparation piperidinothiophene- or stilbene-containing methacrylate monomers)
IT 109-77-3, Malononitrile 4701-17-1, 5-Bromo-2-thiophenecarboxaldehyde 5382-16-1, 4-Hydroxypiperidine
RL: RCT (Reactant); RACT (Reactant or reagent)
(in preparation piperidinothiophene-containing methacrylate monomers)
IT 81020-78-2P 173294-42-3P 173294-43-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(in preparation piperidinothiophene-containing methacrylate monomers)
IT 104-03-0, 4-Nitrophenylacetic acid 121-33-5, 3-Methoxy-4-hydroxybenzaldehyde 123-08-0, 4-Hydroxybenzaldehyde 555-21-5, 4-Nitrophenylacetonitrile 2009-83-8, 6-Chloro-1-hexanol 96735-91-0, 4-[(6-Hydroxyhexyl)oxy]benzaldehyde 107115-26-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(in preparation stilbene-containing methacrylate monomers)

IT 121453-35-8P 173294-44-5P 173294-45-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (in preparation stilbene-containing methacrylate monomers)

IT 121417-62-7P 173294-34-3P 173294-36-5P 173294-38-7P 173294-40-1P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and characterization and polymerization with Me methacrylate)

IT 122506-26-7P 173294-35-4P 173294-37-6P 173294-39-8P
 173294-41-2P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and properties and second harmonic generation in corona-poled
 methacrylate copolymer films)

IT 173294-35-4P 173294-37-6P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and properties and second harmonic generation in corona-poled
 methacrylate copolymer films)

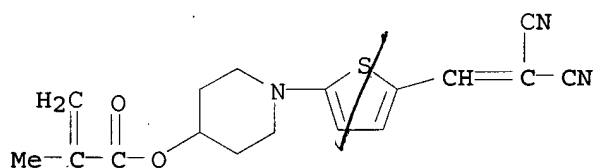
RN 173294-35-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1-[5-(2,2-dicyanoethenyl)-2-thienyl]-4-
 piperidinyl ester, polymer with methyl 2-methyl-2-propenoate (9CI) (CA
 INDEX NAME)

CM 1

CRN 173294-34-3

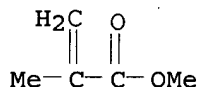
CMF C17 H17 N3 O2 S



CM 2

CRN 80-62-6

CMF C5 H8 O2



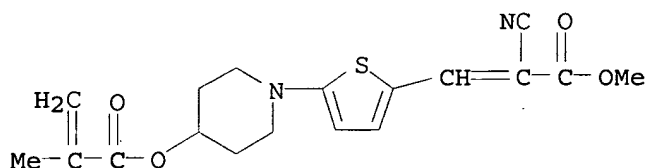
RN 173294-37-6 HCAPLUS

CN 2-Propenoic acid, 2-cyano-3-[5-[4-[(2-methyl-1-oxo-2-propenyl)oxy]-1-
 piperidinyl]-2-thienyl]-, methyl ester, polymer with methyl
 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

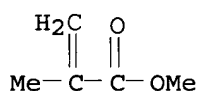
CRN 173294-36-5

CMF C18 H20 N2 O4 S



CM 2

CRN 80-62-6
CMF C5 H8 O2



L21 ANSWER 16 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1994:535215 HCAPLUS

DN 121:135215

TI Molecular and macroscopic NLO properties of organic polymers

AU Man, H. T.; Shu, C. F.; Althoff, O.; McCulloch, I. A.; Polis, D.; Yoon, H. N.

CS Hoechst Celanese Res. Div., Summitt, NJ, 07901, USA

SO Journal of Applied Polymer Science (1994), 53(5), 641-7

CODEN: JAPNAB; ISSN: 0021-8995

DT Journal

LA English

AB Two classes of aryl trienes in which the conjugation was incorporated in six-membered rings have been developed. The microscopic nonlinear optical (NLO) susceptibility, $\mu\beta$, the product of the dipole moment and the second-order nonlinear susceptibility, of these **chromophores** were measured using elec. field-induced second harmonic generation (EFISH). The **chromophores** were then copolymd. as side-chain pendant groups in a methacrylate backbone copolymer with Me methacrylate and their macroscopic electrooptic coeffs., r , were exptl. determined using a reflection technique after elec. field poling of the polymers. When compared with 4,4'-N,N-dimethylaminonitrostibene (DANS), these mols. demonstrated electrooptic activities up to three times of DANS, when measured at 1.3 μ m. By using a simple two-level free-gas model, the two sets of measurements corresponded closely at low poling fields. At high fields, the simple model breaks down as more detailed poling parameters are required to accurately describe the nonlinear poling effects.

CC 36-5 (Physical Properties of Synthetic High Polymers)

Section cross-reference(s): 37, 38, 73

ST nonlinear optical aryl triene polymer; methacrylate aryltriene copolymer
nonlinear optical

IT Laser radiation

(second-harmonic generation by, in study of mol. and macroscopic
nonliner optical properties of poled copolymers containing aryl triene side
chains)

IT Optical nonlinear property

(electro-, second-harmonic generation, of poled copolymers containing aryl
triene side chains, effect of poling field strength on)

IT Electrooptical effect
(second-harmonic generation, of poled copolymers containing aryl triene side chains, effect of poling field strength on)

IT Optical nonlinear property
(susceptibility, second-order, of poled copolymers containing aryl triene side-chains, elec. field-induced second harmonic generation in study of)

IT 149227-09-8 157338-35-7
RL: PRP (Properties)
(microscopic nonlinear optical susceptibility of, elec. field-induced second harmonic generation in study of)

IT 148798-77-0 157338-37-9
RL: PRP (Properties)
(nonlinear optical properties of poled, elec. field-induced second harmonic generation in study of)

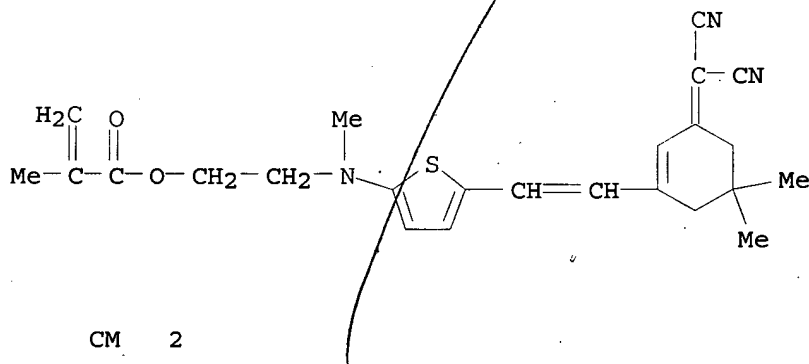
IT 157338-37-9
RL: PRP (Properties)
(nonlinear optical properties of poled, elec. field-induced second harmonic generation in study of)

RN 157338-37-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-[[5-[2-[3-(dicyanomethylene)-5,5-dimethyl-1-cyclohexen-1-yl]ethenyl]-2-thienyl]methylamino]ethyl ester, polymer with methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

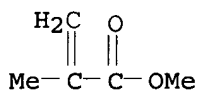
CM 1

CRN 157338-36-8
CMF C24 H27 N3 O2 S



CM 2

CRN 80-62-6
CMF C5 H8 O2



L21 ANSWER 17 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1994:137085 HCAPLUS

DN 120:137085

TI Photophysical and Electron-Transfer Properties of Pseudoisocyanine in the Hydrophobic Microdomain of an Aqueous Polyelectrolyte

AU Jones, Guilford, II; Oh, Churl

CS Department of Chemistry, Boston University, Boston, MA, 02215, USA
 SO Journal of Physical Chemistry (1994), 98(9), 2367-76
 CODEN: JPCHAX; ISSN: 0022-3654

DT Journal
 LA English

AB The binding of pseudoisocyanine (I) to poly(methacrylic acid) (II) has profound effects on the photophys. and photochem. properties of this prototypical cyanine dye. The hydrophobic dye was bound in the microdomain of the compact conformation of II in its (uncharged, "hypercoiled") acid form at pH <4.0 in water. Under these conditions, the fluorescence quantum yield for I was increased 600-fold and its lifetime was extended to 2.7 ns. The dye triplet state observed by flash photolysis provided a very long-lived phototransient (λ_{max} = 640 nm, 50-100- μ s decay time). Electron-transfer quenching was investigated using the oxidant C(NO₂)₄ which provided the semioxidized dye radical intermediate (440-nm transient) on cobinding within II hypercoils. The dye was also bound to a covalently modified form of II in which polymer chains were end-labeled with 9-methylanthracene moieties. Electron transfer between anthracene chromophores and I within the polymer domain was observed

CC 41-6 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

ST pseudoisocyanine complexation polymethacrylic acid; electron transfer pseudoisocyanine complex; fluorescence pseudoisocyanine complexation

IT Electron exchange and Charge transfer
 (in poly(methacrylic acid)-pseudoisocyanine complexes, quenching of, by tetranitromethane)

IT Fluorescence
 (of pseudoisocyanine, effect of complexation with poly(methacrylic acid) on)

IT 25087-26-7, Poly(methacrylic acid)
 RL: USES (Uses)
 (complexation of pseudoisocyanine with, fluorescence in relation to)

IT 153005-90-4
 RL: PRP (Properties)
 (electron transfer in, quenching of, by tetranitromethane)

IT 509-14-8, Tetranitromethane
 RL: USES (Uses)
 (electron-transfer quenching by, in pseudoisocyanine-poly(methacrylic acid) complexes)

IT 977-96-8, Pseudoisocyanine
 RL: PRP (Properties)
 (fluorescence of, effect of complexation with poly(methacrylic acid) on)

IT 153005-90-4
 RL: PRP (Properties)
 (electron transfer in, quenching of, by tetranitromethane)

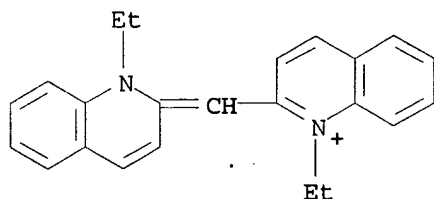
RN 153005-90-4 HCAPLUS

CN Quinolinium, 1-ethyl-2-[(1-ethyl-2(1H)-quinolinylidene)methyl]-, iodide, compd. with 2-methyl-2-propenoic acid homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 977-96-8

CMF C23 H23 N2 . I



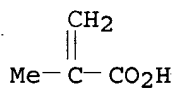
● I⁻

CM 2

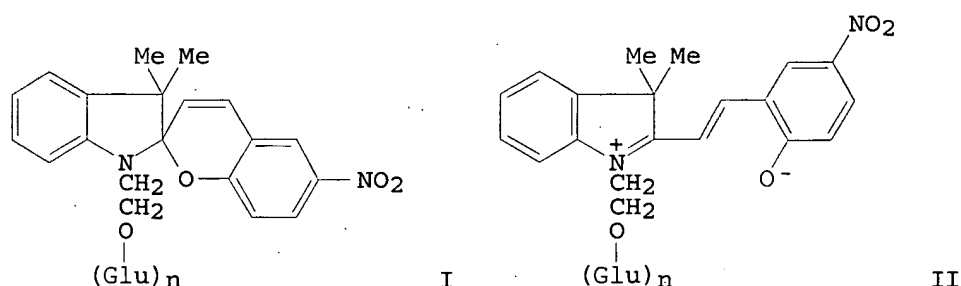
CRN 25087-26-7
CMF (C4 H6 O2)x
CCI PMS

CM 3

CRN 79-41-4
CMF C4 H6 O2



L21 ANSWER 18 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1992:129588 HCAPLUS
DN 116:129588
TI Kinetic study of the helix to coil dark reaction of poly(spiropyran-L-glutamate)
AU Cooper, Thomas M.; Obermeier, Keith A.; Natarajan, L. V.; Crane, Robert L.
CS Wright Lab., Wright-Patterson Air Force Base, OH, 45433, USA
SO Photochemistry and Photobiology (1992), 55(1), 1-7
CODEN: PHCBAP; ISSN: 0031-8655
DT Journal
LA English
GI



AB An investigation of kinetics of the helix to coil dark reaction light adapted poly(spiropyran-L-glutamic acid) I dissolved in hexafluoroisopropanol was performed. The reaction was associated with the spiropyran to merocyanine ring openings to give the ring-opened isomer II. The ring opening reaction monitored with UV/vis spectroscopy showed first order kinetics. **Chromophore** and polypeptide backbone CD data fit to an expression consistent with a single intermediate series mechanism. The polypeptide α -helix amide I, the merocyanine **chromophore** C:C stretch, and the protonated unmodified carboxylate CO stretch bands were monitored by Fourier-transform IR. During the first step of the series mechanism, changes in the hydrogen bonding of the unmodified carboxylate groups occurred, suggesting breakup of polypeptide aggregate. The second step was dominated by the helix to coil transition and the ring opening of the spiropyran to the merocyanine. The CD spectrum of the merocyanine in dark adapted I was red shifted and had a narrower bandwidth than the UV/vis spectrum. The kinetic and spectroscopic data suggested that a fraction of the merocyanine **chromophores** experienced optical activity induced by the chiral polypeptide environment, while the remainder of the merocyanine **chromophores** were solvated and enantiomeric.

CC 34-3 (Amino Acids, Peptides, and Proteins)

Section cross-reference(s): 22, 73

ST conformational inversion kinetics polyspiropyran-glutamate; helix coil transition spiropyran-glutamate polymer; merocyanine-glutamate polymer helix coil transition

IT Conformational inversion

(of light-adapted poly(spiropyranglutamate) to merocyanine form,
kinetics of)

IT 25189-52-0 / 35284-36-7

RL: PRP (~~P~~roperties)

(conformation of, CD in relation to)

IT	79-31-2	Isobutyric acid	26247-79-0	28680-04-8
----	---------	-----------------	------------	------------

RL: RCT (Reactant); RACT (Reactant or reagent)

(esterification of, with (hydroxyethyl)spiro(indolinebenzopyran))

IT 16111-07-2

RL: RCT (Reactant); RACT (Reactant or reagent)

(esterification of, with polyglutamic acid and isobutyric acid)

IT 76483-74-4P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

```
(preparation and absorption spectrum of, vs. merocyanine form)
```

IT 130299-52-4P

RL: SPN (Synthetic preparation); PREP (Preparation)

```
(preparation and merocyanine ring closure of, glutamate conformation in
relation to)
```

IT 130037-82-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

(Reactant or reagent)

(preparation and spiropyran ring opening of, glutamate conformation in relation to)

IT 24991-23-9P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation and spiropyran-merocyanine ring isomerization of, glutamate conformation in relation to)

IT 130299-52-4P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation and merocyanine ring closure of, glutamate conformation in relation to)

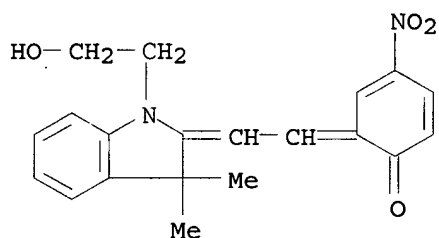
RN 130299-52-4 HCAPLUS

CN L-Glutamic acid, homopolymer, 2-[2,3-dihydro-3,3-dimethyl-2-[2-(3-nitro-6-oxo-2,4-cyclohexadien-1-ylidene)ethylidene]-1H-indol-1-yl]ethyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 93633-69-3

CMF C20 H20 N2 O4



CM 2

CRN 25513-46-6

CMF (C5 H9 N O4)x

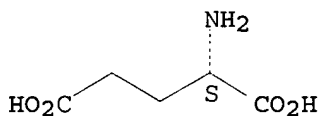
CCI PMS

CM 3

CRN 56-86-0

CMF C5 H9 N O4

Absolute stereochemistry.



L21 ANSWER 19 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1991:617990 HCAPLUS

DN 115:217990

TI Novel third order nonlinear optical materials composed of ionic polymers and **chromophores**

AU Tomiyama, Hiromitsu; Okada, Shuji; Matsuda, Hiro; Nakanishi, Hachiro

CS Cent. Res. Lab., Hodogaya Chem. Co., Ltd., Tokyo, 115, Japan

SO Proceedings of SPIE-The International Society for Optical Engineering
(1990), 1337(Nonlinear Opt. Prop. Org. Mater. 3), 170-7
CODEN: PSISDG; ISSN: 0277-786X

DT Journal

LA English

AB The complex composed of ionic polymer and ionic dye was investigated for third order nonlinear optics. The complexes were prepared by ion exchange reaction between sulfonic group of the polymers and cationic dyes. As cationic dyes, hemicyanines (HC-n), where n indicates the number of double bonds between the aromatic rings, oxacyanine (OC-1) and triphenylmethane derivs. were used. The dye content of the complex could be controlled with in the range of 0.1-0.6 molar ratio of bound dyes to the sulfonic groups by the composition of mixed solvents for the reaction. The thin films of complexes were made by spin coating of their CHCl₃/MeOH solution on fused quartz plates. They were transparent and homogeneous with naked eyes and polarizing microscope. THG measurements were performed by use of pumping laser light from 1.5 to 2.1 μ m. $\chi(3)$ Values of every complexes were linearly proportional to the dye content $\langle M \rangle$ (mmol/cm³). The $\chi(3)$ values of hemicyanine complexes became large at the pumping wavelengths in resonant region of every dyes, and $\chi(3)$ of HC-2 was always larger than that of HC-1, whereas that of OC-1 with a sym. structure was ten times smaller than that of HC-1. The largest $\chi(3)$ values attained at each maximum $\langle M \rangle$ and at the pumping of 1.5 μ m were 1.8×10^{-11} esu for HC-1, 2.4×10^{-11} esu for HC-2 and 1.7×10^{-11} esu for Crystal Violet. However, in the case of Malachite Green and Basic Cyanine 6GH, their THG intensities were negligibly small even at resonant region.

CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 36

ST nonlinear optical material ionic polymer **chromophore**

IT Polymers, properties

RL: PRP (Properties)

(third order nonlinear optical materials composed of **chromophores** and)

IT **Chromophores** and **Chromophoric** systems

(third order nonlinear optical materials composed of polymers and)

IT Optical materials

(nonlinear, third order, composed of ionic polymers and **chromophores**)

IT Optical nonlinear property

(third-order, of materials composed of ionic polymers and **chromophores**)

IT 131825-77-9 131825-79-1 **131825-80-4** 131825-82-6

131825-83-7 131825-86-0 131825-87-1 131853-96-8 131895-95-9

133945-35-4

RL: PRP (Properties)

(third-order nonlinear optical properties of)

IT **131825-80-4**

RL: PRP (Properties)

(third-order nonlinear optical properties of)

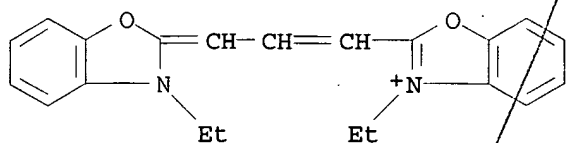
RN 131825-80-4 HCAPLUS

CN Benzoxazolium, 3-ethyl-2-[3-(3-ethyl-2(3H)-benzoxazolylidene)-1-propenyl]-, iodide, compd. with 2-methyl-2-[(1-oxo-2-propenyl)amino]-1-propanesulfonic acid monosodium salt homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 905-96-4

CMF C21 H21 N2 O2 . I



● I⁻

CM 2

CRN 35641-59-9

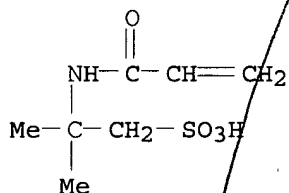
CMF (C7 H13 N O4 S . Na)x

CCI PMS

CM 3

CRN 5165-97-9

CMF C7 H13 N O4 S . Na



● Na

L21 ANSWER 20 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1990:523603 HCAPLUS

DN 113:123603

TI Photophysics of photoconducting polymers with pendant bichromophores II: electron and energy transfer photoprocesses in several carbazole-fluorene donor-acceptor bichromophoric systems based on the monomeric reference compounds

AU Zelent, B.; Messier, P.; Gauthier, S.; Gravel, D.; Durocher, G.

CS Dep. Chim., Univ. Montreal, Montreal, QC, H3C 3J7, Can.

SO Journal of Photochemistry and Photobiology, A: Chemistry (1990), 52(1), 165-78

CODEN: JPPCEJ; ISSN: 1010-6030

DT Journal

LA English

AB The intramol. electron and energy transfer photoprocesses of several bichromophoric mols. containing the carbazolyl **chromophore** as electron donor and the polynitrofluorene or 9-dicyanomethylene fluorene **chromophore** as electron acceptor were studied by measurement of the luminescence spectra and electrochem. properties of the corresponding monochromophoric reference compds. For all donor-acceptor systems considered,

the Rehm-Weller free energy is neg. ($\Delta G_{ET} < 0$) and for the long-range dipole-dipole interactions between the **chromophores**, the Foerster critical transfer distance $R_0 \approx 30 \text{ \AA}$ at 296 K. These values of ΔG_{ET} and R_0 correspond to rate consts. k_q and k_{FT} of the same order of magnitude (i.e. approx. 10^{11} - 10^{13} s^{-1}) in accordance with the strong fluorescence quenching of the carbazolyl **chromophore** found in all of the bichromophoric mol. systems studied.

CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 73

ST electron energy transfer carbazole fluorene photoprocess; photophys carbazole polymer electron acceptor photoprocess

IT Fluorescence
(of bichromophoric molcs. containing carbazolyl **chromophore** and fluorene derivative)

IT Photolysis
(of bichromophoric systems containing carbazolyl **chromophore** donor and fluorene derivative acceptor, photophys. processes in)

IT Ionization potential and energy
Phosphorescence
(of carbazole-fluorene donor-acceptor bichromophoric molcs.)

IT Energy transfer
(intramol., in photoprocesses of bichromophoric systems containing carbazolyl **chromophore** donor and fluorene derivative acceptor)

IT Electron exchange
(photochem., in photoprocesses of bichromophoric systems containing carbazolyl **chromophore** donor and fluorene derivative acceptor)

IT Electric potential
(reduction, half-wave, of carbazole-fluorene donor-acceptor bichromophoric molcs.)

IT 103851-64-5 129045-66-5 129073-15-0 129073-16-1 129073-17-2
129073-19-4 129073-21-8 129109-69-9 129226-45-5
129242-32-6 129242-33-7 129242-34-8
RL: USES (Uses)
(intramol. electron and energy transfer photoprocesses of)

IT 86-28-2 103851-68-9 129226-40-0 129226-41-1 129226-42-2
129226-43-3 129226-44-4 129242-31-5
RL: USES (Uses)
(photophysics of photoconducting polymers with pendant bichromophores in relation to)

IT 129073-19-4
RL: USES (Uses)
(intramol. electron and energy transfer photoprocesses of)

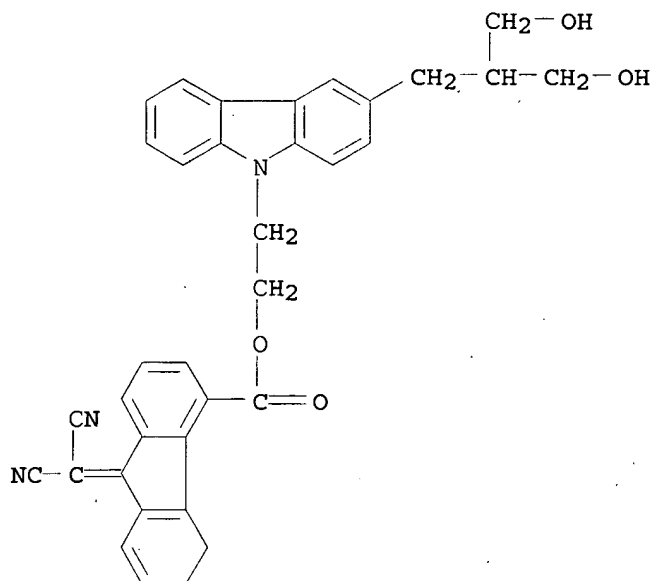
RN 129073-19-4 HCAPLUS

CN Butanedioic acid, polymer with 2-[3-[3-hydroxy-2-(hydroxymethyl)propyl]-9H-carbazol-9-yl]ethyl 9-(dicyanomethylene)-4,9-dihydro-3H-fluorene-5-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 129073-18-3

CMF C35 H29 N3 O4



CM 2

CRN 110-15-6

CMF C4 H6 O4

HO₂C-CH₂-CH₂-CO₂H

L21 ANSWER 21 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1985:583451 HCAPLUS

DN 103:183451

TI Preparation and characterization of polymerized liposomes

AU O'Brien, David F.; Klingbiel, Richard T.; Specht, Donald P.; Tyminski, Patricia N.

CS Res. Lab., Eastman Kodak Co., Rochester, NY, 14650, USA

SO Annals of the New York Academy of Sciences (1985), 446 (Macromol. Drugs Carrier Biol. Act. Mater.), 282-95

CODEN: ANYAA9; ISSN: 0077-8923

DT Journal

LA English

AB Two methacryloyl lipids, CH₂:CMeCONH(CH₂)₃N+Me[(CH₂)₁₇Me]₂ Br- (I)[81571-93-9] and Me₂N+[(CH₂)₁₇Me](CH₂)₆O₂C(CH₂)₁₁O₂CCMe:CH₂ Br- (II)

[87279-14-9], were prepared and polymerized I polymer [87279-13-8] contained

a

polymer chain near the aqueous interface of the bilayer and water. II polymer [87279-15-0] consisted of a polymer chain in the middle of the bilayer interior which may bond the 2 halves of the bilayer together. Aqueous dispersions of I and II were sonicated at 50° above the lipid phase transition to yield opalescent suspensions of unilamellar and multilamellar liposomes. These monofunctional lipids were soluble in organic solvents even after polymerization Me₃N+CH₂CH₂O₂P(O)(O-)(OCH₂CH[O₂CCH:CHCH:CH(CH₂)₁₀Me]CH₂O₂CCH:CHCH:CH(CH₂)₁₀Me (III) [88589-84-8] and HOSO₂CH₂CH₂N[CH₂CH₂O₂CCH:CHCH:CH(CH₂)₁₀Me]₂ (IV)

[88589-82-6] were prepared from 2,4-hexadecadienoic acid and the appropriate head group. Each Zwitterionic bifunctional lipid was readily hydrated to form liposomes that upon sonication yield bilayer structures with radii of 500-1000 Å. The **chromophore** of III absorbs at 257 nm and UV irradiation of aqueous suspensions of III or IV results in a loss of 95-98% absorption. These dispersions effectively entrap water-soluble compds. in the same manner as methacryloyl liposomes. These dienoyl lipids are crosslinkable by virtue of the reactive group in each acyl chain. The liposomes containing I, II, III and IV are characterized by multiple polymer chains/liposome and a moderate decrease in membrane permeability to glucose.

CC 63-5 (Pharmaceuticals)

Section cross-reference(s): 35

ST polymn methacryloyl liposome; dienoyl lipid polymn liposome

IT Pharmaceuticals

(carriers for, polymerized methacryloyl or dienoyl liposomes as)

IT Liposome

(polymerized methacryloyl or dienoyl lipids-containing, as drug carriers)

IT 87279-13-8P 87279-15-0P **88589-83-7P 88589-85-9P**

RL: SPN (Synthetic preparation); PREP (Preparation)

(liposomes, preparation and properties of)

IT 81571-93-9P 87279-14-9P 88589-82-6P 88589-84-8P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of)

IT **88589-83-7P 88589-85-9P**

RL: SPN (Synthetic preparation); PREP (Preparation)

(liposomes, preparation and properties of)

RN 88589-83-7 HCAPLUS

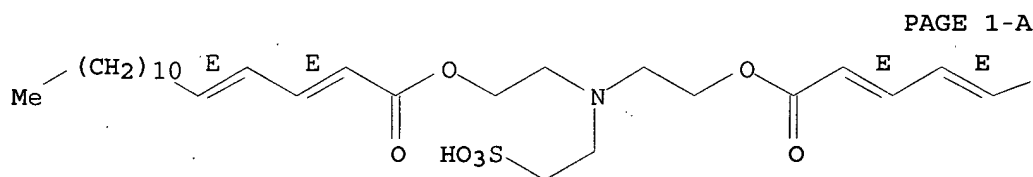
CN 2,4-Hexadecadienoic acid, [(2-sulfoethyl)imino]di-2,1-ethanediyl ester, (all-E)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

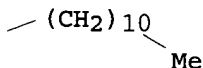
CRN 88589-82-6

CMF C38 H67 N O7 S

Double bond geometry as shown.



PAGE 1-B



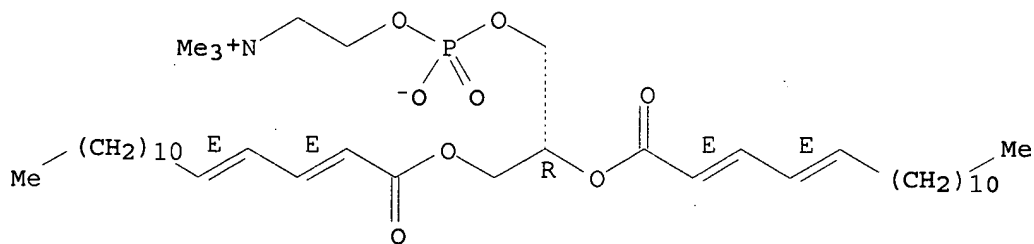
RN 88589-85-9 HCAPLUS

CN 3,5,9-Trioxa-4-phosphapentacos-11,13-dien-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxo-2,4-hexadecadienyl)oxy]-, inner salt, 4-oxide, [R-(all-E)]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 88589-84-8
CMF C40 H72 N O8 P

Absolute stereochemistry.
Double bond geometry as shown.



=>

=> file reg

FILE 'REGISTRY' ENTERED AT 09:18:34 ON 05 JUL 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2005 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 4 JUL 2005 HIGHEST RN 853727-85-2
DICTIONARY FILE UPDATES: 4 JUL 2005 HIGHEST RN 853727-85-2

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> d que

L1 SCR 2043
L2 STR

O~S~O
8 @9 10

C~O C~C~C=C~G1
@4 5 12 11 1 2 3

C~N
@6 @7

VAR G1=4/6/7/9

NODE ATTRIBUTES:

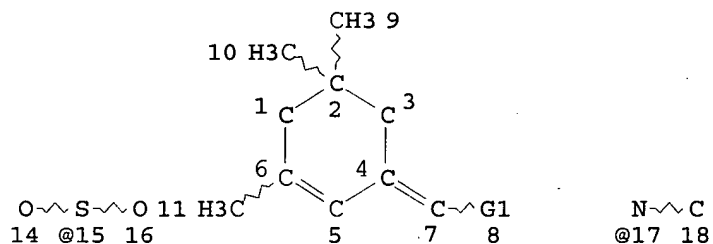
NSPEC IS RC AT 1
NSPEC IS RC AT 2

KATHLEEN FULLER EIC 1700 REMSON 4B28 571/272-2505

NSPEC IS RC AT 4
 NSPEC IS RC AT 6
 NSPEC IS RC AT 7
 NSPEC IS RC AT 9
 NSPEC IS RC AT 11
 NSPEC IS RC AT 12
 CONNECT IS E1 RC AT 5
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 12

STEREO ATTRIBUTES: NONE
 L3 3788 SEA FILE=REGISTRY SSS FUL L2 AND L1
 L7 STR



VAR G1=CN/12/15/17
 NODE ATTRIBUTES:
 CONNECT IS E1 RC AT 13
 CONNECT IS E1 RC AT 14
 CONNECT IS E1 RC AT 16
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RSPEC I
 NUMBER OF NODES IS 18

STEREO ATTRIBUTES: NONE
 L10 0 SEA FILE=REGISTRY SUB=L3 SSS FUL L7

=>